CESPK-ED-M (1110) 13 June 1997

MEMORANDUM FOR RECORD

SUBJECT: Civil Works Specifications Steering Committee Meeting Minutes

1. The Civil Works Specifications Steering Committee (CWSSC) met on 4-6 March 1997 in Sacramento, California. Enclosure 1 lists the attendees and enclosure 2 is the agenda.

2. Training. Ray Duncan provided overview training of SPECSINTACT and WordSpec template on 4 March 1997 (enclosure 3) for those members present. He was assisted by Pat Robinson and Tom Adams, representatives of EG&G Florida, Inc.

3. Announcements. Freddie Rush opened the meeting on 5 March 1997 with the introduction of David W. Barber, CESWD-ETE-T, replacing James D. Adkinson.

4. HQUSACE Comments. Charles Baldi reported that Jack Bickley is very busy, and may not be with CW permanently. Charlie mentioned the Engineering Construction Conference will be in June this year.

5. Review and Approve Minutes of Second Meeting Committee.

a. John Kerkowski recommended the first sentence of Paragraph 5.c. be revised to read, "Mr. Ray Duncan concurred with this recommendation and will draft a plan for a one day orientation training course as well as a more detailed three day familiarization course, depending on the needs of each District." John also recommended the third sentence be deleted with the inclusion of the recommended revised first sentence. As it reads now, this paragraph is not consistent with the 31 December 1996 letter Charlie put out on SPECSINTACT Training.

b. John Kerkowski recommended Paragraph 9 be revised to read as follows: "Charlie Baldi reported that CENAP has awarded a bank stabilization contract that requires the installation of both twisted wire and welded wire gabions. CENAP will monitor this project over the next four years and report on how well each type of gabion faired in terms of installation, performance and durability. John Kerkowski provided Charlie a copy of the contract specification section covering the gabion installation for reference purposes."

c. Steven P. Freitas moved to approve the minutes of the 12-13 December 1996 meeting as corrected. Joe Miller seconded the motion and it passed by unanimous vote.

6. Status of CWSSC Recommendations.

a. Recommendation No. 1 - SI-CCCB agreed to make SPECSINTACT fully compliant with Standard Generalized Markup Language (SGML) and EG&G Florida is working on it.

b. Recommendation No. 2 - Mr. Kisuk Cheung, CEMP, concurred with this recommendation by memorandum dated 9 December 1996. However, Jim Quinn, CEHNC-ED-ES, will not include "hands on" training for SPECSINTACT in the PROSPECT course, Specifications for Construction Contracts. Mr. Quinn determined that it was too expensive and not cost effective to provide "hands on" training for the short period available (enclosure 4). However, Jim proposes to provide up to a four-hour demonstration. SPECSINTACT "hands on" training can be obtained from other agencies such as the Navy in NCTAMS LANT, Norfolk, VA, and SpecType in Cardiff, CA (enclosure 5). Mr. Baldi moved to accept Jim Quinn's proposal and table further action on training until next year. Tom Shaw seconded the motion. Discussion addressed concerns about disseminating information on available training alternatives and costs.

Motion passed by unanimous vote. Mr. Ray Duncan will work with Freddie and Charlie on the course content.

c. Recommendation No. 3 - Mr. Ray Duncan provided a one day plan for overview training of SPECSINTACT and WordSpec Template (enclosure 3). A more detailed three day familiarization course will be tailored to the needs of each District. Charles Baldi sent a memorandum to Divisions about SPECSINTACT Training on 31 December 1996.

d. Recommendation No. 4 - Deferred.

e. Recommendation No. 5 - Deferred.

f. Recommendation No. 6 - Deferred.

g. Recommendation No. 7 - The revised draft recommendation on automating the amendment process with SPECSINTACT was presented (enclosure 6). There was discussion on various amendment processes and differences. George Norton suggests the SPECSINTACT application must have the following components:

i. Menu driven.
ii. Simple on screen instructions.
iii. Options to replace complete section or page replacement.
iv. Uses Standard Form 30.
v. Identify amendment number (e.g., AM-0001).
vi. Indicate changes made to each page.
vii. Print Job options for complete amendment.
viii. Include options for producing Electronic Bid Set.

h. Recommendation No. 8 - Deferred.

7. Report on SPECSINTACT Interagency Configuration Control and Coordinating Board (SI-CCCB) Meeting.

a. Tom Shaw presented information on integration of specifications with CADD discussed at the SI-CCCB meeting. The SPECSINTACT-CAD Requirements Analysis described a system developed for dual language jobs that works with AutoCAD (enclosure 7). The system uses key number reference tables for each section (enclosure 8). Drawings also have key number reference tables which are compared to the specification reference tables to note any disconnects (enclosure 9). This system could also work with TRACES (enclosure 10). Tom will check the status of this item with Tri-Service CADD/GIS Service Center (enclosure 11). Ray Duncan mentioned CSI is also producing a drawing standard.

b. Tom Shaw reported the problem getting through to SPECSINTACT Help Desk is linked to a 90 line limitation for the Kennedy Space Center (KSC). People needing assistance should FAX or E-mail a help message when the phones are busy or not answered. SPECSINTACT support will call back when they are able.

c. EG&G Florida, Inc. will be using MS Test to help debug mundane processes in software developed for Windows applications.

d. Users Guide for Construction Criteria Base (CCB) #39 has been significantly improved.

8. Report on SI Training. Charlie Baldi said to coordinate SI training directly with Ray Duncan and provide him courtesy copies.

9. CCB Document Updates.

a. Recommendation No. 5 - Recommend that HQUSACE appoint a POC and establish a process to update the CW engineering criteria currently on the CCB CD-ROM and continue oversight of the CW engineering criteria that is put on

CCB CD-ROM. HQUSACE Information Management will establish and maintain a database of most recent CW publications. Jim Quinn will have access to the engineering criteria portion of a database and he will provide quarterly updates to National Institute of Building Sciences (NIBS) for inclusion on CCB CD-ROM (enclosure 12). CCB will drop documents that are no longer listed on TECHINFO.

b. Tom Shaw has a list of CWGS to be dropped and a note on disposition of HDC specifications will be in the CWGS Index on the next CCB.

10. CW Specifications Notice Program.

a. Charlie Cheung and Jim Quinn offered to take the program over, but the CWSSC is concerned about the differences of CW and MILCON work. Freddie Rush suggested the following steps:

i. We start with a combined specification committee.
ii. Develop a combined ER on Specification Engineering.
iii. Combine Guide Specifications.
iv. Combine Notice Program.

b. HTRW specifications also need to be included. Often districts have only one unit or section to support all three activities. Rick Dahnke and Jim Quinn should attend next meeting to participate in discussion.

c. John Kerkowski will draft Recommendation No. 9 (enclosure 13) to combine Steering Committee, Specifications and Notice Program. Forward all comments to him to finalize the recommendation.

11. Status of ER 1110-1-1250. Charlie Baldi has final draft ready for IM to process (enclosure 14). Ray Duncan addressed CWSSC comments and issues in finalizing the ER for Specification Engineer. The CWSSC discussed the measurement and pay issue of unit prices verse lumped sum items for features.

12. Technical Representatives for CWGS. Tom Shaw provided the status report of the CWGS (enclosure 15). A second list shows CWGS needing replacement Tech Representatives (enclosure 16) also indicated which sections should be the responsibility of HDC. Tom will call HDC to determine sections to be dropped and will consult with Charlie if there are any problems. Technical Representatives for CWGS will be solicited from both districts and divisions. Individual Resumes should be a single page that reflects relative educational experience, training, professional registration and activities. The committee will select Technical Proponents from candidates submitted.

13. Guidance for Formatting and Preparing Construction Contracts. Don Carmen presented an information paper on Guidance for Formatting and Preparing Construction Contracts (enclosure 17). PARC IL 92-4 may have been rescinded and we need to find out the reasons why. EFARS only show arrangement of contract documents. The CSI MASTERFORMAT has changed and our GS section numbers are no longer correct. Don suggested we may need a new ER to replace the guidance contained in the PARC IL 92-4. George Norton emphasized that we need to get the message out on the status of PARC IL 92-4 and new MASTERFORMAT. Don Johnson stated a need exists for guidance to control construction contracts on RFP jobs. Don Carmen was also concerned about non-regulatory clauses being put into section 0800. Mr. Carmen will investigate the reasons for rescinding PARC IL 92-4 and report back to Freddie Rush. A motion passed that Freddie will draft a recommendation against rescinding PARC IL 92-4 and forward to Charlie.

14. Plan Quantities. The Plan Quantities alternative to unit or lump sum pricing was submitted to The Associated General Contractors (AGC) committee. They didn't like the concept and preferred lump sum for known quantities. It was noted that estimates have to conform to the Cost Breakdown Structure. Ray Duncan mentioned the new ER places responsibility for the Bid Schedule with the Specification Engineer. The AGC also had comments on the Electronic Bid Set (EBS) initiative. Not all prime contractors like it as they primarily use paper to distribute information to subcontractors.

15. Recommendation No. 4 - CECW-EP Memorandum, 27 January 1997 (enclosure 18), provides the status on CWSSC recommended list of CWGS to be updated, deleted and developed. Changes in the status since the memorandum follows:

a. CE 1308, Stone Protection - This section will be done by CELMK as CWGS 02542.

b. CE 1309, Levees - Charlie needs information on cost to update.

c. Drainage Structures through Levees and Small Dams - The cost of $80,000 and two years to develop section was questionable.

d. Concrete Restoration - George Norton has someone with experience in concrete restoration. They have four local specifications on mortars, concrete and epoxies. Freddie Rush will forward copies of letters to divisions and districts to solicit local specifications.

e. Rock Anchors and Soil Anchors - Al Geisen has a local specification on anchors for retaining walls.

f. CW 16643, Cathodic Protection for Lock Miter Gates - Mr. Jones, CESAM, is updating this section.

16. Safety Specifications. The practice of referring to the "latest issue" of EM 385-1-1 in specifications is insufficient. The contractor needs to have the latest issue identified as a reference by date in the specifications. George Norton referred to the Navy GS 01525, Safety Requirements. Charlie had a draft section, but the Military didn't think it was needed. We must supplement contract clauses to include the date of EM 385-1-1. Don Carmen, Ray Duncan and Charlie will get together with the Safety Office on this issue.

17. Specification Conference. Larry Seals moved to recommend the CWSSC sponsor a Specification Conference. Tom Shaw seconded the motion. The date and location are to be determined within the next year. Freddie Rush will draft the recommendation.

18. CWSSC WWW Site. Pat Robinson will provide a web site for the CWSSC. Steven Freitas will forward information to Pat.

19. Recommendation No. 8 - Recommend that the SI-CCCB modify the SPECSINTACT print option to append the section to the section table of contents and produce a single print file for each specification section (enclosure 19). John Kerkowski moved and Joe Miller seconded the recommendation, and the motion passed. Steven Freitas is to prepare an NASA FORM 1620 for this recommended change.

20. CWSSC Funding. Committee members will send Freddie Rush e-mail on funding required for next meeting.

21. Report on SI Funding. Charlie Baldi reported that SI funding is no

longer an issue this year. The total contribution from the Corps is $200,000.

22. Open Discussion/New Issues.

a. Discussion ensued on references to FARS and other documents in the special clauses. The AGC is concerned about learning which references are in effect. Also, there exist inconsistencies in the use of the references. We need to solicit the status of districts.

b. Ray Duncan was thanked for his SPECSINTACT and WORDSPEC demonstration and training.

c. Pat Robinson and Tom Adams were also thanked for their participation in the demonstration, training, and meeting. Pat said she now has a better understanding of our needs and concerns about SPECSINTACT.

d. Charlie Baldi is optimistic about merging CEGS and CWGS efficiently with a joint committee. He will send Charlie Cheung a memorandum on his intention to budget for SPECSINTACT funding.

23. Next Meeting. We will hold our next meeting in June 1997 in Arlington, TX.

24. There being no further discussion or business for the Committee to consider, we adjourned the meeting.

19 Encls

Steven P. Freitas
Secretary, CWSSC

CIVIL WORKS STEERING COMMITTEE
Meeting Attendance
Sacramento, California
4-6 March 1997

1.	Charlie Baldi	CECW-EP	(202) 761-8894
2.	Thomas R. Shaw	CELMK-ED-DE	(601) 631-5579
3.	Freddie S. Rush	CELMV-ET-ET	(601) 634-5936
4.	Jim McHenry	CENCD-E-EG-T	(312) 353-1801
5.	Al Geisen	CENCS-DE-D	(612) 290-5522
6.	George H. Norton	CENED-ED-DS	(617) 647-8870
7.	Joe Miller	CEMRD-ET-E	(402) 697-2649
8.	Donald N. Johnson	CEMRK-EP-CS	(816) 983-3303
9.	John Kerkowski	CENAD-ET-ET	(212) 264-7106
10.	Bill Wottlin	CENPD-ET-E	(503) 326-3861
11.	Larry Seals	CEORD-ET-EQ	(513) 684-3034
12.	Tim Pope	CESAD-ET-EG	(404) 331-6703
13.	Don Carmen	CESAW-EP-EE	(910) 251-4656
14.	Donald L. Bergner	CESPD-ET-E	(415) 977-8108
15.	Steven P. Freitas	CESPK-ED-M	(916) 557-7296
16.	David W. Barber	CESWD-ETE-T	(214) 767-2385
17.	Ray Duncan	Spec Consultants	(601) 638-8958
18.	Pat Robinson	EG&G Florida	(407) 867-8630
19.	Tom Adams	EG&G Florida	(407) 867-8800

ENCLOSURE 1

AGENDA

CIVIL WORKS SPECIFICATIONS STEERING COMMITTEE

TUESDAY, 4 MARCH 1997 (Training)

0800 - 1000	SPECSINTACT - Overview and Setup
1000 - 1015	Break
1015 - 1200	Pulling Job, Printing Sections & Markup
1200 - 1300	Lunch
1300 - 1500	SPECSINTACT Editor, WordSpec, Editing Sections
1500 - 1515	Break
1515 - 1630	Printing Job, Quality Checks, Processing Masters

WEDNESDAY, 5 MARCH 1997

0800 - 0810	Announcements	Freddie Rush
0810 - 0820	Review and Discuss Agenda	Committee
0820 - 0830	HQUSACE Comments	Charlie Baldi
0830 - 0845	Review and Approve Minutes of Third Meeting	Committee
0845 - 0930	Status-Prior Recommendations	Freddie Rush
0930 - 0940	Report on SI-CCB Meeting Integrating Specs w/Cadd	Tom Shaw
0940 - 0955	Report on SI Training	Charlie Baldi
0955 - 1015	Break	
1015 - 1045	Updating CCB CD-ROM	Steve Freitas
1045 - 1130	CWGS Notice Program	Committee
1130 - 1230	Lunch	
1230 - 1315	Status of ER 1110-2-1250	Ray Duncan
1315 - 1415	Tech Proponents for CWGS	Committee
1415 - 1435	Break	
1435 - 1500	Guidence for formatting and Preparing Construction Contracts	Don Carmen
1500 - 1515	Plan Quantities	Freddie Rush
1515 - 1545	CWGS to be Updated/Developed	Committee
1545 - 1600	Wrapup of Day 1	Committee

THURSDAY, 6 MARCH 1997

0800 - 0815	Committee Funding	Committee
0815 - 0830	SPECSINTACT Funding	Committee
0830 - 0845	Measurement & Payment	Committee
0845 - 0930	Open Discussion/New Issues	Committee
0930 - 0945	Date & Location Next Meeting	Committee
0945 - 1000	Closing Remarks	

Sacramento Schedule

One Day for Specifications Engineers

Day one

Morning:

0800-0815	SI Introduction
0815-0845	SI for Spec Engineers
0845-0915	SI Folders & Networking
0915-1000	JOBS Processing
1000-1015	Break
1000-1030	MASTERS Processing
1030-1200	Hands on Exercise Tasks 1-7

Lunch

Afternoon:

1300-1345	SI Editor Presentation
1345-1415	Hand on Task 8
1415-1445	WordSpec
1445-1530	Break & Tasks 8-11
1530-1545	Task 12
1545-1600	Tasks 13-14
1600-1630	Wrap-up and Adjorn

Exhibit 5

handson.wpd 13 February 1997

PROSPECT COURSE
SPECIFICATIONS FOR CONSTRUCTION CONTRACTS

1. OBJECTIVE: Provide four hours hands-on SPECSINTACT training for students as requested by the Civil Works Specifications Steering Committee.

2. METHOD OF ACCOMPLISHMENT:

   a. Rent Corps Computer Lab at Course Location. $2000/week.

   b. Use Huntsville Training Center Computer Lab. $1600/week.

   c. Rent Computers for In-Class Use at Course Location. Six @ $500/week.

   d. Students Bring Laptops to Class. Availability not confirmed.

3. PROBLEMS:

   a. Equipment Costs. Would increase tuition costs $70 to $300 per student.

   b. Time Lost (setup and to/from lab). One to two hours class time.

   c. Reduction of Class Time for Other Important Class Subjects. 5 +or- hours.

   d. Reach Small Number of Corps Users. 90 students: 45 non-Corps; 20 Corps but non-users; 25 possible Corps actual users.

   e. Not all Corps Offices Represented In Student Body.

4. ANALYSIS: Not cost effective. Four hours still may not be enough. Too much sacrifice of other subject matter coverage in the course. (Original request was for 2 hrs per course, but final request was for 4 hrs per course.)

5. ALTERNATIVES:

   a. Make On-site Training Available to Corps Districts on a Reimbursible Basis.

   b. HQUSACE Provide On-site Training to Districts Upon Request.

NOTE: 8 hrs on-site training with one instructor would take about 3 days of instructor time ($1800), travel costs ($350), and per diem ($250), for a total cost of $2400 to train 10 +or- actual users ($240 each), PROSPECT course course cost for each student would be $70+ for each student but only 20 of 90 would fully benefit; therefore actual cost would be $315 per actual Corps user).

ENCLOSURE 4

From: spectype <spectype@adnc.com>
To: CIVIL_WORKS.ENG1_POST(BALDI)
Date: 20 Feb 1997 8:51pm
Subject: SpecType Training Information

Charles:
Following is the information we discussed via telephone today.

SPECSINTACT with SGML Training Schedule Offered by SpecType:

SpecType is now in our 7th year of training. Emphasis is on thorough hands-on understanding of the program. We feel that we have the most comprehensive training in the United States.

What we offer:

1. SPECSINTACT Starting with the Basics. This is a 2-day dedicated training for persons who would like to learn the entire SPECSINTACT process. It will cover SPECSINTACT basics from how to set up a job to final printing.

2. SPECSINTACT for Previous Users of SPECSINTACT. This is a 1-day class which introduces experienced SPECSINTACT users to the new and exciting SGML.

All SPECSINTACT classes will cover the following:

Job setup, adding and deleting sections, editing, printing
Working with Federal Masters and setting up In-House Masters
Conversion from DOS SPECSINTACT, SPECSINTACT for Windows (non-SGML) to SPECSINTACT with SGML
Conversion from various word processed sections (i.e. Word Perfect) to SGML
Entire SGML processing procedure
Short cuts and how to avoid pitfalls
Personalized instruction

Government Personnel Rates only:
TRAINING SCHEDULE IN SAN DIEGO
SPECSINTACT Starting with the Basics (2-day):
$345.00 -- February 24, 25, 1997
SPECSINTACT for Previous Users (1-day):
$250.00 -- February 26, 1997

For ON-SITE Training, Reservations, Class Scheduling Each Month, or any Other Additional Information, Please Contact:

SpecType
April and Michael Dangerfield
1281 Summit Avenue
Cardiff, CA 92007
California --- TEL: (619) 632-7774, FAX: (619) 753-7797
All Other States --- TEL/FAX: (800) 479-7441 e-mail --- spectype@adnc.com

Enclosure 5

CESPK-ED-M (1110) 13 February 1997

MEMORANDUM FOR HQUSACE, ATTN: CECW-EP

SUBJECT: Recommendation No. 7, Automating Amendments in SPECSINTACT

1. This is a recommendation of the Civil Works Guide Specifications Steering Committee regarding amendments in SPECSINTACT (SGML version) specifications processing and editing software.

2. PROBLEM: No specific guidance or consistent standards exist on preparing amendments for Corps of Engineers projects. Perceived problems and difficulties issuing amendments with SPECSINTACT exist.

3. RECOMMENDATIONS: The Civil Works Specifications Steering Committee recommends that HQUSACE request the SPECSINTACT Interagency Configuration Control and Coordinating Board (SI-CCCB) develop and enhance the amendment process in SPECSINTACT. The Committee further recommends HQUSACE provide funding to EG&G for this effort.

4. BACKGROUND AND DISCUSSION: Some Districts issue amendments as page changes and others replace entire sections. We adopted SPECSINTACT as our standard specification system to help standardize construction specifications. Modifying SPECSINTACT to standardize the amendment process as described in enclosure 1 is feasible.

1 Encl

Freddie S. Rush, Chairman
Civil Works Specifications Steering Committee

ENCLOSURE 6

SPECSINTACT-CAD REQUIREMENTS ANALYSIS

I. PROJECT DEFINITION

Neither SPECSINTACT nor off-the-shelf CAD systems currently provide good methods for linking drawings to written specifications, or for ensuring that all materials included in a job's drawings are properly described in the job's accompanying specifications. In this document, we propose improvements to SPECSINTACT and certain CAD software packages that will help to accomplish these tasks.

As a starting point for our efforts, Rogers, Lovelock, & Fritz ("RLF"), an architectural/engineering firm with experience using SPECSINTACT, has developed and has agreed to make available to us an add-on program for AutoCAD™ systems. This program (which we will call "DrawSpec", although it was originally known as "JohnDoc"), uses symbols called Key Note Designators ("Key Numbers") to identify specific parts of a CAD drawing. These Key Numbers currently take the form *NNNNN.abc*, where *NNNNN* would represent a specification number, such as *05500*, and *abc* would uniquely an item defined within the specification.

For example, the Key Number *05500.J10* on a drawing might identify the item *Steel Handrails*, as designated in written specification number *05500*. The term *Steel Handrails* is called a "Key Word", which, together with its accompanying Key Number, forms a "Key Note". Included with each DrawSpec drawing is a legend that defines each Keynote used in the drawing. In addition to providing a link between CAD drawings and the written specifications, the use of these Key Notes in a CAD drawing also simplifies the drawings by reducing the amount of descriptive identification required for each drawing component.

II. FUNCTIONAL REQUIREMENTS

The identified requirements are:

1. The system developed must accommodate multiple groups of master specifications (e.g., Navy, NASA, Army, and at least one Local master). This capability must exist both within SPECSINTACT and within DrawSpec.

2. Master specification writers and others must be able to designate Key Words and their associated Key Numbers using the SPECSINTACT SGML Editor. If the specification number later changes, all the Key Numbers identified in that specification should also change. This requirement implies that Key Numbers will appear only within the specification identified by their Key Number (e.g., Key Number 05500 may appear only in specification 05500, and not in specification 06600).

3. Users must be able to optionally hide the Key Number when printing and when viewing the screen display of the specification, so that only the Key Word is visible.

4. Users must be able to create a list, sorted either by Key Number, or by Key Word and then Key

ENCLOSURE 7

Number, of all Key Notes used in a job or in a given specification. This capability will be available both within the SPECSINTACT software, and as a stand-alone application.

5. Users must be able to pull entire specification sections for a job based upon a list of Key Notes. In the first phase of this project, users will not need to be able to pull selected portions of a specification.

6. Users must be able to validate their job to be sure that it contains all specification sections referred to by the Key Notes used in a set of drawings (e.g., if Key Number 05500.J10 appears in a drawing, be sure that section 05500 appears in the corresponding job). This functionality must be available automatically when sections are pulled for the job.

7. Users must be able to validate one or more master or job specification sections to be sure that these sections contain all the Key Numbers implicitly attributed to them by a given set of drawings (e.g., if the Key Number 05500.J10 is used in a drawing, be sure that this Key Number actually appears somewhere in section 05500). The validation program will compare Key Numbers only, so that it will not flag as discrepancies minor (or major) differences in Key Words.

8. Users will need a stand-alone application to simultaneously view and compare two Key Note lists.

9. When pulling a job specification based upon a list of Key Notes, the existence of any of these Key Notes in a part of the document designated by a Tailoring Option will cause that Tailoring Option to be automatically selected. This requirement will be met in a subsequent phase of this project, after tailoring has been more fully implemented in the SPECSINTACT software and master documents.

10. Links with popular CAD systems other than AutoCAD™ should eventually be made available. This requirement can be satisfied in a subsequent phase of this project.

11. The system should be designed to facilitate an eventual link with job costing systems already in use.

III. CONCEPTUAL DESIGN

A. Expanded Key Numbers

The existing DrawSpec Key Numbering system is inadequate for multiple groups of master specifications, which together might contain more than one reference to a given Key Number. To prevent duplicate Key Numbers from appearing in different master specifications, we propose that the Key Number be augmented to include a one-digit master prefix. Key Numbers would each include a unique prefix, such as 1 for Army, 2 for Navy, 3 for NASA, and 4 for a local master. These prefixes would uniquely identify the master in which the Key Word was used.

Additionally, the Key Number should include a four-digit extension (e.g., *01-05500.J100)*, rather than the three-digit extension currently implemented in DrawSpec. This would facilitate an eventual link with existing job costing systems, such as the one used by the Army Corps of Engineers, which identifies and

prices components using a section number followed by a four-digit extension.

B. Editor Markup

We will modify the SPECSINTACT system to accommodate a new SGML tag, *<Key>*, with an attribute, *Number*. With tags and attributes visible, such a markup within a specification might appear as follows: *<Key Number = J100>**Steel Handrails**</Key>*. When adding Key Notes, the user will have to specify only the four-digit extension, *J100*. Before producing Key Note lists or validating a job, SPECSINTACT will automatically derive the master and section numbers from the specification. The user will be able to hide the Key Number information by turning off the display of SGML tags, so that only the Key Words are visible.

To implement this scheme, SPECINTACT software will have to enforce a requirement that all specification headers uniquely identify a single master. This requirement should not affect Army, Navy, or NASA master specifications, which already identify their source within the header. The requirement may impact users who currently create their own master documents, however, in which the header has been until now an optional part. In order to work with DrawSpec, these documents will need a header that specifies either that they are from a local master, or that they are from either the Navy, NASA, or the Army.

C. SPECSINTACT Software Changes

A new menu choice, *DrawSpec*, will appear in both the JOBS and MASTERS modules. The following options would be available when this menu choice was selected (except as indicated, all items will be available in both MASTERS and JOBS):

1. *Create Key List*
2. *Validate Job* (JOBS only)
3. *Validate Section(s)*
4. *Options*
    - *Update on Pull*
    - *Validate on Pull* (JOBS only)
    - *Specify CAD Key Word File*

These options would work as follows:

1. *Create Key List* would create a list of Key Words and Key Numbers contained in an entire job. Any items with identical Key Numbers (master, section, and extension) but different Key Words would be listed separately. Such conflicting Key Notes would not affect the next two validation options, however, which would result in comparisons only of the Key Numbers, and not of the Key Words.

2. *Validate Job* would verify that a job contained all specification sections referred to by the Key Numbers in a designated drawing Key Note list. Before doing this, the system would first verify that the job Key Note list was current, updating this file if necessary. SPECSINTACT would optionally ask the user whether to pull any missing sections. The system would also verify that each specification section

contained all the Key Numbers implicitly attributed to it by the CAD Key Note list (this latter capability would also be available from the *Validate Section(s)* option, described below). SPECSINTACT would display a list of all Key Notes included in the CAD Key Note list whose Key Numbers did not also exist in the job's sections. The program would ignore differences in Key Words.

Validate Section(s) would verify that one or more selected specification sections contained all the Key Notes implicitly attributed to them by the CAD Key Note list (this would also be performed automatically when a user validated a job). Before doing this, the system would first verify that the job Key Note list was current, updating this file if necessary. SPECSINTACT would display a list of all Key Notes included in the CAD Key Note list whose Key Numbers did not exist in the specified section. The program would ignore differences in Key Words.

3. *Options* would enable a user to specify the following:

   - *Update on Pull* would cause the SPECSINTACT software to automatically update its list of all job Key Notes whenever a user added sections to or deleted sections from a job. This list might be used by other specification writers or users of CAD software, and so keeping it current in this manner would be important.

   - *Validate on Pull* would cause the SPECSINTACT software to automatically validate the entire job whenever a user added sections to or deleted sections from that job. SPECSINTACT would update the SPECSINTACT Key Note list before performing validation.

   - *Specify CAD Key Word File* would allow the user to specify a location for the CAD Key Note list (any accessible file on the user's computer system). A default choice would be available.

D. Key Note List Creation Utility

This stand-alone utility would allow a user to create a list of Key Notes contained in a given group of specifications, such as an entire set of master specifications, a set of job specifications, or just individual sections. The user would specify sections in much the same way that SPECSINTACT users do now when pulling master sections to create a new job. The Key Note List Creation Utility would have the following options:

1. Specify Output File
2. Sort By Key Number
3. Sort By Key Word/Key Number

E. Key Note List Comparison Utility

This stand-alone utility would supplement the automatic validation routines in SPECSINTACT, allowing users to simultaneously view and compare two lists of Key Notes. These comparisons would permit users more flexible job validation, such as verifying that a set of drawings contains all the Key Notes in a given set of specifications, which would not be possible using the planned automatic validation methods. Also,

simultaneously viewing and comparing Key Note lists would help to correct discrepancies in Key Words that SPECSINTACT validation would ignore. This utility may be combined with the Key Note List Creation Utility.

F. Further Development and Enhancement of DrawSpec Software

DrawSpec, the AutoCAD™ add-on application, will need to be modified to accommodate Key Numbers with one-digit master prefixes, as well as four-digit extensions. Additionally, DrawSpec will need to be modified to generate a single Key Note list from multiple drawings (as of 2/5/97, DrawSpec produced a separate Key Note list for each drawing). Although RLF may have already performed some of this work, we should not look to them to contribute significantly more than they already have to this project.

G. Intergraph™/Microstation™ Software Development

Because of widespread use by the Army Corps of Engineers, Intergraph™/Microstation™ CAD Software should be enhanced to work with SPECSINTACT Key Notes. This work should be scheduled as a subsequent phase of this project.

H. Links to Job Costing Systems

The ability to automatically estimate job costs through links to existing job costing systems would be beneficial. This work should be scheduled as a subsequent phase of this project.

IV. Issues Raised

A. Master Prefix Required in Key Number

The DrawSpec software must be modified to specify a master prefix with the Key Number information in the Key Note list that it creates. This is essential to ensure proper validation of SPECSINTACT jobs pulled from multiple masters. The group selected to take over development and maintenance of DrawSpec should complete this task, if it has not already been performed by RLF.

B. Limited Local Masters

At present, we have plans to support only one local master per SPECSINTACT job. Should this prove to be inadequate, we can later allow up to 31 additional local masters by using both letters and numbers to designate separate local masters.

C. Limitations on Key Number References

When adding Key Notes to specifications, users and master text writers will not have to specify either the master (such as Army, Navy, NASA, or Local) or the specification section number, because this information will be inferred from the document being edited. This simplifies the work of document writers,

but also imposes limitations. The SPECSINTACT software will not permit Key Numbers in specification sections other than the ones in which they are defined (Key Number 05500 will not be permitted in Specification 06600). Also, users will have limited flexibility to specify masters other than Army, Navy, and NASA.

D. No Validation of Drawings Based Upon Specification Key Note Lists

We have described the need to validate a set of specifications to be sure that it contains references to all Key Notes specified in a list created from a given set of drawings. As such, we have assumed that automatic Key Note validation occurs only for a job's written specifications, and not for the drawings. That is, we anticipate no need to automatically validate a set of drawings to ensure that it contains all Key Notes referenced in a particular Key Note list. Such validation would be possible only by using the Key Note List Comparison Utility to visually compare two Key Note lists.

E. Section Must Accurately Identify Master and Section Number

Because the Editor will derive the master number from the section header and the specification number from the section number, this information will have to be accurate. Users who edit this information run the risk of corrupting document Key Note information. Also, if users wish to cut and paste information from one section into another, they run the risk of having the SPECSINTACT editor supply an incorrect master or section number in the Key Number.

F. Only Two Key Note Lists Needed for Validation; Other Lists Can Be Created as Needed

Most functions described herein can be accomplished with the use of two Key Note lists, one derived from the project drawings, and the other derived from the written specifications. Additional Key Note lists may be needed to provide writers and draftsman with the available Key Note choices when creating master specifications, or when drafting drawings before job specifications have yet been pulled. The Key Note List Creation Utility will provide the capability to create a Key Note list from any given set of specifications.

G. Additional Key Note Lists May Cause Validation Errors

The Key Note List Creation Utility would enable users to overwrite existing job Key Note lists, possibly leading to erroneous job validation. In particular, a user might inadvertently replace a complete job Key Note list with a partial listing of job Key Notes based only upon some of the job's sections. Restricting the availability of this utility to certain select users might be desirable, although no such restriction has been identified as a requirement.

H. Automatic Job Validation May Impact Software and User Performance

Certain tasks, such as validating an entire job each time a section is added and prompting the user to make necessary corrections, may adversely impact SPECSINTACT system or user performance. The option to disable automatic validation will help eliminate problems, but also may lead to incorrect validation, especially when multiple users have access to the same jobs.

I. Multiply-Occurring Key Words May Cause Problems If Not All Occurrences Are Tagged

Some Key Words may occur multiple times within a single specification. The failure to identify with tags each instance of a Key Word within a specification will complicate later efforts to tailor or redline specifications based on a list of Key Words (Key Note list).

J. Key Words Not a Substitute for Tailoring

Key Words will not replace tailoring options within a document. Typically, a tailoring option will apply to a large portion of a specification, whereas a Key Word will be a single word or phrase. Also, Key Notes will not be mutually exclusive, whereas tailoring options might be. Certain Key Words might appear only within certain tailoring options, but this will be left up to the specification writers.

K. Limitations on Key Note Placement and Contents

In addition to containing text and numeric data, we anticipate that KEY tags will be allowed to contain only Submittals (SUB tags). We currently envision allowing the new KEY tag to appear only in the following places in a specification:

1. Subpart Titles (TTL tags)
2. Text (TXT tags)
3. Lists (LST tags)
4. Items (ITM tags)
5. Submittals (SUB tags)
6. English Measurements (ENG tags)
7. Metric Measurements (MET tags)

L. Conflicting Key Numbers Possible

SPECSINTACT will not prevent users or master writers from inadvertently using the same Key Number extension twice for two different Key Words. The person who creates or edits the specification will be responsible for preventing such conflicts.

M. Using Specifications with Different Dates May Foil Validation

Numerous potential problems can occur when drawings prepared using a given set of specifications are later validated by a newer set of the same specifications. One way to bring such problems to a user's attention might be to associate a master specification date with each Key Note list file produced by SPECSINTACT or DrawSpec. This solution would only highlight potential problems, however, rather than solving them. Also, such a solution raises additional questions. The methods DrawSpec would use to determine and save this date are as yet unspecified, as are the techniques SPECINTACT might use to determine a master date for jobs created from different masters. *Because of the difficulties inherent in trying to resolve different specification dates automatically, the individual user will be responsible for ensuring that a set of*

drawings is based upon the same specifications that are included with the job.

N. Need License or Assignment of RLF's Rights in DrawSpec Software

Before implementing a solution based upon DrawSpec, we should obtain a license agreement or assignment of RLF's rights in DrawSpec. Such a license or assignment should clearly specify that we may freely distribute and enhance this product.

V. Time And Travel Estimates

These estimates are based only upon work required for the initial phase of this project, and do not include any modifications to or maintenance of DrawSpec. Additional time and resources will be needed to complete DrawSpec, and to implement requirements designated for subsequent phases of this project.

At present, we can provide only rough estimates of the level of effort required to complete this project. We will be able to provide more accurate estimates and a project timeline in approximately two months, after we have finished the SPECSINTACT software detailed design. All estimates represent man-months of effort, and are based on having a qualified individual working exclusively on the project. Although we do not plan to dedicate any individuals to this project, we expect to be able to use several members of the SPECSINTACT and CAD development teams simultaneously, and so complete all initial development work in approximately one year.

SPECSINTACT and Stand-Alone Key Note Utilities Development

1. Detailed Design	2 months
2. Programming	5 months
3. Unit Testing	1.5 months
4. Integrated Testing	1.5 months, 12 travel days to LANTDIV
5. User Documentation	2 months
6. Technical Documentation	1 month
Totals:	**13 months, 12 travel days**

SAMPLES

SECTION 05500 - METAL FABRICATIONS

KEYWORD	FIRST DIGIT	SECOND DIGIT	THIRD DIGIT
	ELEMENT -Material -Manuf. Units -Equipment -Components (L-S) -Accessories (T-Z)	TYPE	
STRUCTURAL MEMBERS	**A**	**0**	**0**
STEEL BEAM	A	1	0
STEEL LINTEL	A	2	0
TUBE STEEL	A	3	0
STEEL CHANNEL	A	4	0
PIPE COLUMN	A	5	0
PLATE	A	7	0
BENT PLATE	A	7	1
BEARING PLATE	A	7	2
STIFFENER PLATE	A	7	3
CAP PLATE	A	7	4
BRIDGING	A	8	0
STRUT	A	9	0
FASTENERS	**B**	**0**	**0**
ANCHOR BOLT	B	1	1
TOGGLE BOLT	B	1	2
LAG BOLT	B	1	3
SCREWS	B	2	1
LAG SCREW	B	2	2
EXPANSION ANCHOR	B	3	0
THREADED INSERT	B	5	0
POWDER DRIVEN FASTENERS	B	7	0
WASHERS	B	9	0
PANELS/DOORS	**C**	**0**	**0**
ACCESS DOOR	C	1	0
ACCESS PANEL	C	2	0
STRUCTURAL STEEL DOOR FRAME	C	3	0
ROOF HATCH	C	4	0
PROTECTIVE COVERS	**D**	**0**	**0**
CORNER GUARD	D	1	0
COVER PLATE	D	2	0
EXPANSION JOINT COVER	D	3	0
CONTROL-JOINT COVER	D	4	0
FLOOR SYSTEMS	**E**	**0**	**0**
GRATING	E	1	0
FLOOR GRATING	E	2	0
FLOOR PLATES, PATTERNED	E	3	0
ROOF WALKWAY	E	4	0
EXTRUDED FLOOR MAT FRAME	E	5	0
PROTECTIVE POSTS	**F**	**0**	**0**
GUARD POST	F	1	0
BOLLARD	F	2	0
STAIR SYSTEMS	**G**	**0**	**0**
STEEL STAIR	G	1	0
STEEL STAIR, CIRCULAR	G	2	0
LADDER	G	3	0
SHIP'S LADDER	G	3	1
LADDER CAGE	G	4	0

KEYWORD	FIRST DIGIT	SECOND DIGIT	THIRD DIGIT
	ELEMENT -Material -Manuf. Units -Equipment -Components (L-S) -Accessories (T-Z)	TYPE	
TREAD/NOSING SYSTEMS	**H**	**0**	**0**
NONSKID METALLIC TREADS	H	1	1
SAFETY TREADS	H	1	2
METAL PAN CONCRETE FILLED TREADS	H	1	3
GRATING TREADS	H	1	4
PRECAST CONCRETE TREADS	H	1	5
SAFETY NOSING	H	2	0
RAIL SYSTEMS	**I**	**0**	**0**
HANDRAIL	I	1	0
GUARD RAIL	I	2	0
SECURITY GRILL	I	3	0
WHEEL GUARDS	**J**	**0**	**0**
WHEEL GUARD	J	1	0
MANHOLE SYSTEMS	**K**	**0**	**0**
GAS-TIGHT MH COVER	K	1	0
MANHOLE FRAME	K	2	0

ENCLOSURE 8

SECTION 07550 - MODIFIED BITUMINOUS MEMBRANE ROOFING

KEYWORD	FIRST DIGIT ELEMENT Material Manuf. Units Equipment Components (L-S) Accessories (T-Z)	SECOND DIGIT TYPE	THIRD DIGIT
SHEET MATERIALS	**A**	**0**	**0**
MODIFIED BITUMEN SHEET	A	1	0
MODIFIED BITUMEN BASE SHEET	A	2	0
MODIFIED BITUMEN CAP SHEET	A	3	0
VENTILATING BASE SHEET	A	4	0
TOP SURFACING	A	5	0
.	.	.	.
.	.	.	.
MOPPED-ON PRODUCTS	**B**	**0**	**0**
PRIMER	B	1	0
ASPHALT PRIMER	B	2	0
ASPHALT	B	3	0
ASPHALT ROOF CEMENT	B	4	0
.	.	.	.
.	.	.	.
FASTENER SYSTEMS	**C**	**0**	**0**
MECHANICAL FASTENER	C	1	0
METAL DISC	C	2	0
.	.	.	.
.	.	.	.
INSULATION PRODUCTS	**D**	**0**	**0**
INSULATION	D	1	0
.	.	.	.
.	.	.	.
FLASHING MATERIALS	**E**	**0**	**0**
FLASHING	E	1	0
CONTROL JOINT	E	2	0
EXPANSION JOINT	E	3	0
.	.	.	.
.	.	.	.
VENTING	**F**	**0**	**0**
EDGE VENTING	F	1	0
UNDERSIDE VENTING	F	2	0
MOISTURE RELEASE VENT	F	3	0
.	.	.	.
.	.	.	.
ACCESSORIES	**G**	**0**	**0**
WOOD NAILER	G	1	0
CANT	G	2	0
ROOF CURB	G	3	0
.	.	.	.
.	.	.	.
DRAIN PRODUCTS	**H**	**0**	**0**
ROOF DRAIN	H	1	0
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WALKING SURFACE PRODUCTS	**I**	**0**	**0**
PRECAST PAVER BLOCKS	I	1	0
WALKBOARDS	I	2	0
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SECTION 08110 - STEEL DOORS AND FRAMES

KEYWORD	FIRST DIGIT ELEMENT Material Manuf. Units Equipment Components (L-S) Accessories (T-Z)	SECOND DIGIT TYPE	THIRD DIGIT
STEEL DOORS	**A**	**0**	**0**
STANDARD DUTY STEEL DOOR	A	1	0
HEAVY DUTY STEEL DOOR	A	2	0
EXTRA HEAVY DUTY STEEL DOOR	A	3	0
SPECIAL STEEL DOORS	**B**	**0**	**0**
CUSTOM HOLLOW METAL DOOR	B	1	0
INSULATED STEEL DOOR SYSTEM	B	2	0
SOUND RATED STEEL DOOR	B	3	0
FIRE RATED STEEL DOOR	B	4	0
FIRE AND SMOKE RATED STEEL DOOR	B	5	0
OVERSIZED STEEL DOOR	B	6	0
STANDARD STEEL DOOR FRAMES	**C**	**0**	**0**
WELDED FRAME	C	1	0
KNOCK-DOWN FRAME	C	2	0
CASED OPENING	C	3	0
FRAME PARTS	**D**	**0**	**0**
MULLION	D	1	0
TRANSOM BAR	D	2	0
STOP	D	3	0
BEAD	D	4	0
TERMINATED STOP	D	5	0
ANCHORS	**E**	**0**	**0**
WALL ANCHORS	E	1	0
FLOOR ANCHORS	E	2	0
GROUT	E	3	0
ACCESSORIES	**F**	**0**	**0**
INTERIOR LOUVER	F	1	0
EXTERIOR LOUVER	F	2	0
INSULATED CORE	F	3	0
MOLDING	F	4	0
ASTRAGAL	F	5	0
SHELF FOR DUTCH DOOR	F	6	0
WEATHERSTRIPPING	**G**	**0**	**0**
WEATHERSTRIPPING	G	1	0
INTEGRAL GASKET	G	2	0

SECTION 10153 - TOILET PARTITIONS

KEYWORD	FIRST DIGIT ELEMENT Material Manuf. Units Equipment Components (L-S) Accessories (T-Z)	SECOND DIGIT TYPE	THIRD DIGIT
TOILET ENCLOSURE	A	0	0
ROOM ENTRANCE SCREEN	B	0	0
URINAL SCREEN	C	0	0

SPECSINTACT CCB PRESENTATION

DRAWING–SPECIFICATION LINK

23 October 1996

ENCLOSURE 9

EACH EFD FIELD DIVISION WILL MAINTAIN AN EFD SPECIFIC "GRAND MASTER LIST" OF GUIDE SPECIFICATIONS WITH COORDINATED KEYWORDS. THIS GRAND MASTER LIST IS A COMBINATION OF ALL OF THE INDIVIDUAL LISTS OF GUIDE SPECIFICATIONS USED AT THE EFD (ie, LANTDIV, NAVY, etc.). THE EFD CAN ALSO DEVELOP LISTS OF GUIDE SPECIFICATIONS THAT ARE TAILORED TO SPECIFIC PROJECT TYPES.

NORTHDIV

SOUTHDIV

NAVY

COE

EFD GRAND MASTER LIST OF GUIDE SPECIFICATIONS

LANTDIV

DIVISION 01 – GENERAL REQUIREMENTS
01010 Summary of Work
01020 Allowances
01020 Measurement and Payment
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DIVISION 02 – SITEWORK
02010 Subsurface Investigation
02050 Demolition
02100 Site Preparation
02140 Dewatering
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DIVISION 03 – CONCRETE
03100 Concrete Formwork
03200 Concrete Reinforcement
03250 Concrete Accessories
03300 Cast-in-Place Concrete
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AT THE BEGINNING OF A DESIGN PROJECT, SENIOR DESIGNERS WILL CREATE A "PROJECT MASTER LIST" OF APPROPRIATE GUIDE SPECIFICATIONS THAT HE/SHE BELIEVES WILL LIKELY BE USED ON THEIR PROJECT. THIS PROJECT MASTER LIST IS TAKEN FROM THE "EFD GRAND MASTER LIST" OR FROM A LIST DEVELOPED FOR A SPECIFIC PROJECT TYPE.

PROJECT MASTER LIST
(FROM EFD GRAND MASTER)

PROJECT NO. XXXXX

DIVISION 01 – GENERAL REQUIREMENTS
01010 Summary of Work
01020 Allowances
01020 Measurement and Payment

DIVISION 02 – SITEWORK
02010 Subsurface Investigation
02050 Demolition
02100 Site Preparation
02140 Dewatering

DIVISION 03 – CONCRETE
03100 Concrete Formwork
03200 Concrete Reinforcement
03250 Concrete Accessories
03300 Cast-in-Place Concrete

DIVISION 04 – MASONRY
04100 Mortar and Masonry Grout
04150 Masonry Accessories
04200 Unit Masonry
04400 Stone

DIVISION 05 – METALS
05010 Metal Materials
05030 Metal Coatings
05050 Metal Fastenings
05100 Structural Metal Framing

DIVISION 06 – WOOD AND PLASTICS
06050 Fasteners and Adhesives
06100 Rough Carpentry
06130 Heavy Timber Construction
06150 Wood and Metal Systems

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
07100 Waterproofing
07150 Dampproofing
07180 Water Repellents
07190 Vapor Retarders

DIVISION 08 – DOORS AND WINDOWS
08100 Metal Doors and Frames
08200 Wood and Plastic Doors
08250 Door Opening Assemblies
08300 Special Doors

DIVISION 09 – FINISHES
09100 Metal Support Systems
09200 Lath and Plaster
09250 Gypsum Board
09300 Tile

DIVISION 10 – SPECIALTIES
10153 Toilet Partitions
10191 Cubicle Track and Hardware
10201 Metal [Wall] [and] [Door] Louvers
10280 Wall and Corner Guards

DIVISION 11 – EQUIPMENT
11010 Maintenance Equipment
11020 Security and Vault Equipment
11030 Teller and Service Equipment
11040 Ecclesiastical Equipment

DIVISION 12 – FURNISHINGS
12050 Fabrics
12100 Artwork
12300 Manufactured Casework
12500 Window Treatment

DIVISION 13 – SPECIAL CONSTRUCTION
13010 Air Supported Structures
13020 Integrated Assemblies
13030 Special Purpose Rooms
13080 Sound, Vibration, and Seismic Control

DIVISION 14 – CONVEYING SYSTEMS
14100 Dumbwaiters
14200 Elevators
14300 Escalators and Moving Walks
14600 Lifts

DIVISION 15 – MECHANICAL
15050 Basic Mechanical Materials and Methods
15250 Mechanical Insulation
15300 Fire Protection
15400 Plumbing

DIVISION 16 – ELECTRICAL
16050 Basic Electrical Materials and Methods
16200 Power Generation – Rust – Up Systems
16300 Medium Voltage Distribution
16400 Service and Distribution

THE "PROJECT MASTER LIST" IS SCANNED AND A "PROJECT MASTER KEYNOTE LIST" WILL BE EXTRACTED AND WRITTEN AS AN ASCII TEXT FILE.

PROJECT MASTER KEYNOTE LIST

DIVISION 01 – GENERAL REQUIREMENTS
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DIVISION 10 – SPECIALTIES

//10153.A10	Toilet Enclosure, Floor Supported//
//10153.A11	Toilet Enclosure, Floor Supported, Baked Enamel//
//10153.A12	Toilet Enclosure, Floor Supported, Stainless Steel//
//10153.A13	Toilet Enclosure, Floor Supported, Laminated Plastic//
//10153.A14	Toilet Enclosure, Floor Supported, Solid Plastic//
//10153.A20	Toilet Enclosure, Ceiling Hung//
//10153.A21	Toilet Enclosure, Ceiling Hung, Baked Enamel//
//10153.A22	Toilet Enclosure, Ceiling Hung, Stainless Steel//
//10153.A23	Toilet Enclosure, Ceiling Hung, Laminated Plastic//
//10153.A24	Toilet Enclosure, Ceiling Hung, Solid Plastic//
//10153.A30	Toilet Enclosure, Overhead Braced//
//10153.A31	Toilet Enclosure, Overhead Braced, Baked Enamel//
//10153.A32	Toilet Enclosure, Overhead Braced, Stainless Steel//
//10153.A33	Toilet Enclosure, Overhead Braced, Laminated Plastic//
//10153.A34	Toilet Enclosure, Overhead Braced, Solid Plastic//
//10153.A40	Toilet Enclosure, Floor to Ceiling Post Supported//
//10153.A41	Toilet Enclosure, Floor to Ceiling Post Supported, Baked Enamel//
//10153.A42	Toilet Enclosure, Floor to Ceiling Post Supported, Stainless Steel//
//10153.A43	Toilet Enclosure, Floor to Ceiling Post Supported, Laminated Plastic//
//10153.A44	Toilet Enclosure, Floor to Ceiling Post Supported, Solid Plastic//

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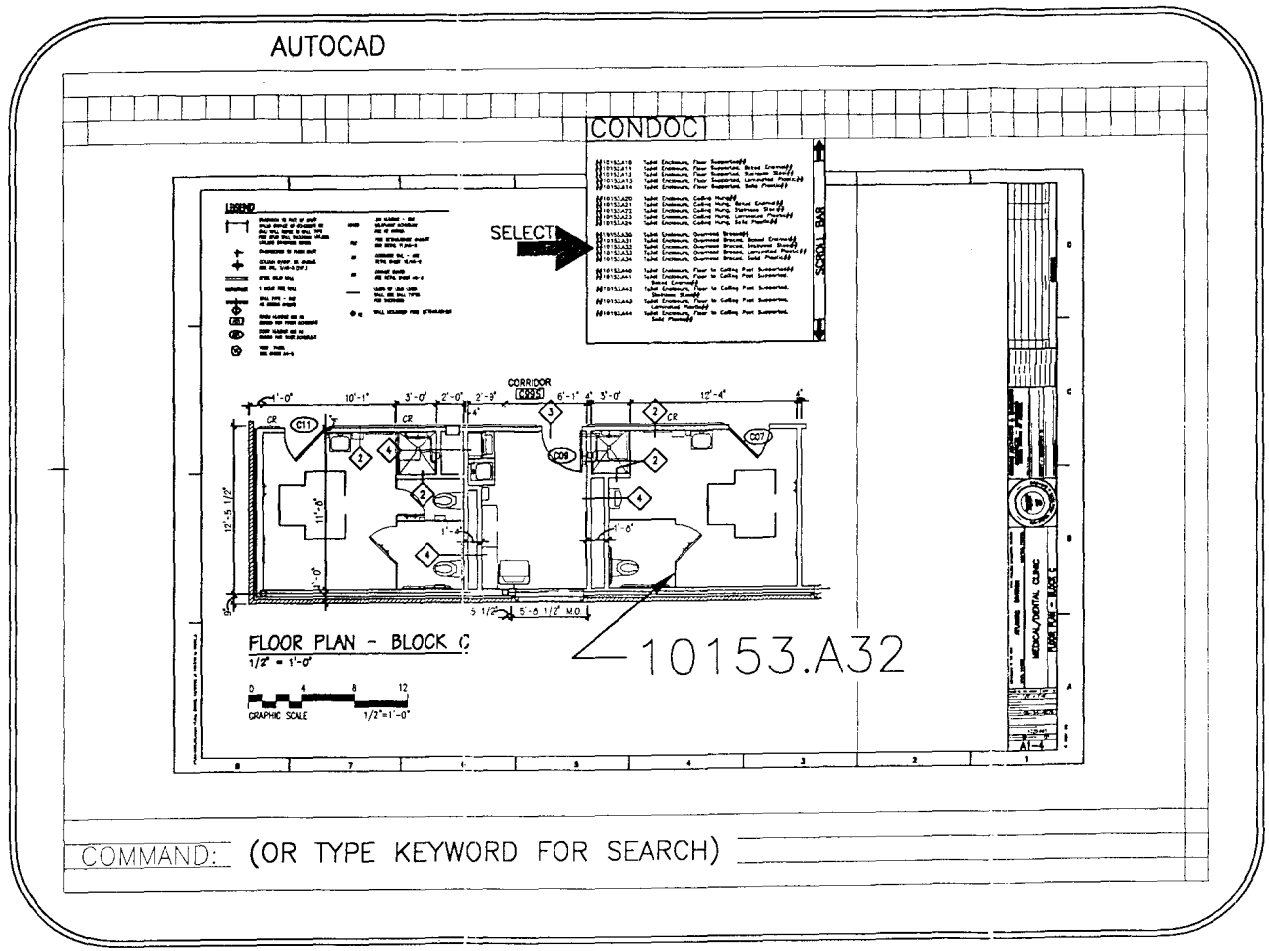
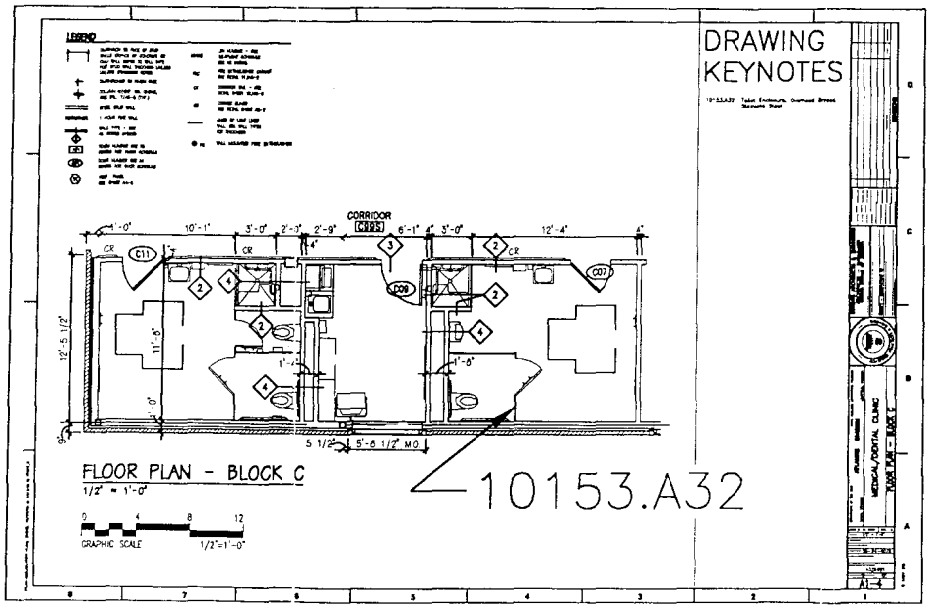
AS THE DESIGNER DEVELOPS THE DRAWINGS, HE ACCESSES "CONDOC" AND, FROM A DROP-DOWN MENU, INSERTS A LEADER LINE TO AN ITEM IN HIS DETAIL WHICH HE WANTS TO DEFINE. HE THEN ACCESSES THE "PROJECT MASTER KEYNOTE LIST" EITHER THROUGH A DIALOG BOX OR A DROP-DOWN MENU AND SEARCHES THE KEYWORDS (AND NUMBERS) FOR THE ITEM HE WANTS TO DEFINE. HE SELECTS THE ITEM FROM THE MASTER LIST AND IT APPEARS NEXT TO THE LEADER LINE AS A FIVE DIGIT SPECIFICATION NUMBER WITH A THREE DIGIT EXTENSION.



REGULARLY, DURING THE PREPARATION OF THE DRAWINGS, THE DRAWING IS SCANNED. THE SCANNING PROCESS DOES TWO THINGS. FIRST, IT CREATES A LIST OF FIVE DIGIT SPEC NUMBERS WITH THREE DIGIT EXTENSIONS ON THE RIGHT HAND SIDE OF THE DRAWING, ALONG WITH A WRITTEN DESCRIPTION OF WHAT THOSE NUMBERS MEAN. .....

AUTOCAD

CONDOC



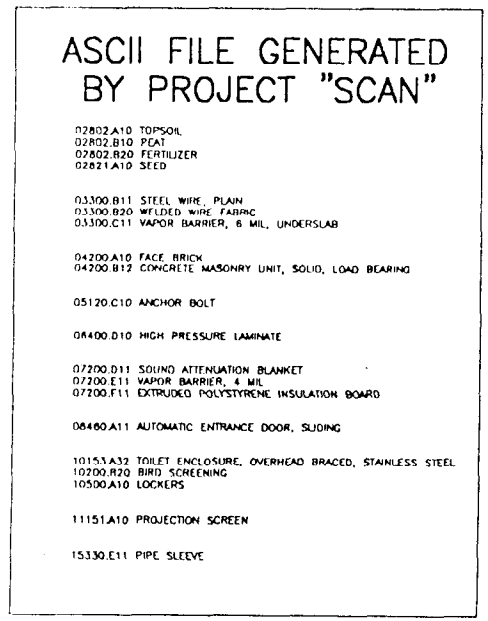
COMMAND:

Handout Page Four

..... SECOND, AT EACH SCAN, IT ADDS THE NEW NUMBERS AND DEFINITIONS TO AN ASCII TEXT FILE THAT IS LOCATED ON THE NETWORK.

LATER IN THE DESIGN PROCESS, WHEN THE SPECIFI WRITER BEGINS WORK ON THE SPECIFICATION, HE E ACCESSING THE ASCII TEXT FILE FROM THE NETWOR THAT LIST BECOMES THE BASIS FOR THE INITIAL PU SPECIFICATION SECTIONS.

THIS CREATES THE "PROJECT SPECIFICATION LIST." I THE SPECIFICATION WRITER GOES INTO SPECS-IN-T/ WILL BE NOTIFIED OF ANY CHANGES TO THE ASCII AND WILL BE ASKED IF HE WANTS TO HAVE THE AC SECTIONS ADDED TO THE "PROJECT SPECIFICATION I



ASCII FILE GENERATED BY PROJECT "SCAN"

02802.A10 TOPSOIL
02802.B10 PEAT
02802.B20 FERTILIZER
02821.A10 SEED

03300.B11 STEEL WIRE, PLAIN
03300.B20 WELDED WIRE FABRIC
03300.C11 VAPOR BARRIER, 6 MIL, UNDERSLAB

04200.A10 FACE BRICK
04200.B12 CONCRETE MASONRY UNIT, SOLID, LOAD BEARING

05120.C10 ANCHOR BOLT

06400.D10 HIGH PRESSURE LAMINATE

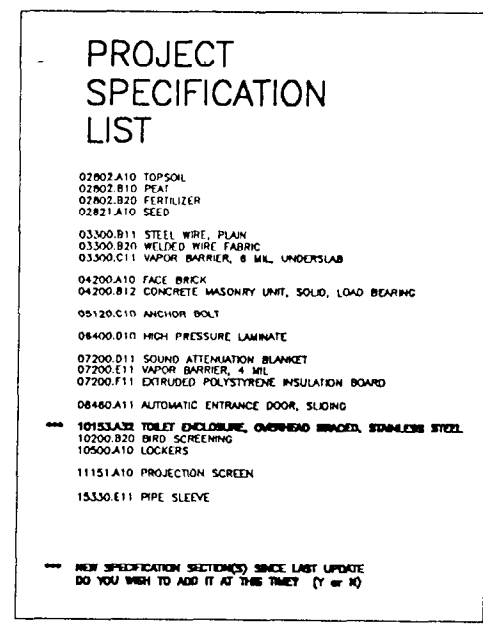
07200.D11 SOUND ATTENUATION BLANKET
07200.E11 VAPOR BARRIER, 4 MIL
07200.F11 EXTRUDED POLYSTYRENE INSULATION BOARD

08460.A11 AUTOMATIC ENTRANCE DOOR, SLIDING

10153.A32 TOILET ENCLOSURE, OVERHEAD BRACED, STAINLESS STEEL
10200.B20 BIRD SCREENING
10500.A10 LOCKERS

11151.A10 PROJECTION SCREEN

15330.E11 PIPE SLEEVE



PROJECT SPECIFICATION LIST

02802.A10 TOPSOIL
02802.B10 PEAT
02802.B20 FERTILIZER
02821.A10 SEED

03300.B11 STEEL WIRE, PLAIN
03300.B20 WELDED WIRE FABRIC
03300.C11 VAPOR BARRIER, 6 MIL, UNDERSLAB

04200.A10 FACE BRICK
04200.B12 CONCRETE MASONRY UNIT, SOLID, LOAD BEARING

05120.C10 ANCHOR BOLT

06400.D10 HIGH PRESSURE LAMINATE

07200.D11 SOUND ATTENUATION BLANKET
07200.E11 VAPOR BARRIER, 4 MIL
07200.F11 EXTRUDED POLYSTYRENE INSULATION BOARD

08460.A11 AUTOMATIC ENTRANCE DOOR, SLIDING

*** 10153.A32 TOILET ENCLOSURE, OVERHEAD BRACED, STAINLESS STEEL
10200.B20 BIRD SCREENING
10500.A10 LOCKERS

11151.A10 PROJECTION SCREEN

15330.E11 PIPE SLEEVE

*** NEW SPECIFICATION SECTION(S) SINCE LAST UPDATE
DO YOU WISH TO ADD IT AT THIS TIME? (Y or N)

ONCE UPDATES TO THE PROJECT SPECIFICATION LIST ARE ACCEPTED, THE LIST BECOMES THE "PROJECT DRAWING KEYNOTE LIST" AND IS USED TO AUTOMATICALLY PULL THE ADDITIONAL SECTION(S) FOR EDITING.

AS PROJECT SPECIFICATION SECTIONS ARE EDITED (DEFINED AS BEING OPENED AND THEN SAVED WITH CHANGES AFTER A PULL OR AS A RESULT OF TAILORING OPTIONS BEING APPLIED AS A RESULT OF A PULL), A "PROJECT SPECIFICATION KEYWORD LIST" WILL BE AUTOMATICALLY GENERATED LISTING ALL KEYWORDS AND KEYNOTE DESIGNATORS REMAINING IN THE SPECIFICATION SECTIONS FOR THE SPECIFIC PROJECT.

FOR QUALITY CONTROL PURPOSES, THE "PROJECT DRAWING KEYNOTE LIST" AND THE "PROJECT SPECIFICATION KEYWORD LIST" WILL BE COMPARED TO CREATE AN EXCEPTION REPORT.

PROJECT DRAWING KEYNOTE LIST

02802.A10 TOPSOIL
02802.B10 PEAT
02802.B20 FERTILIZER
02821.A10 SEED

03300.B11 STEEL WIRE, PLAIN
03300.B20 WELDED WIRE FABRIC
03300.C11 VAPOR BARRIER, 6 MIL, UNDERSLAB

04200.A10 FACE BRICK
04200.B12 CONCRETE MASONRY UNIT, SOLID, LOAD BEARING

05120.C10 ANCHOR BOLT

06400.D10 HIGH PRESSURE LAMINATE

07200.D11 SOUND ATTENUATION BLANKET
07200.E11 VAPOR BARRIER, 4 MIL
07200.F11 EXTRUDED POLYSTYRENE INSULATION BOARD

08460.A11 AUTOMATIC ENTRANCE DOOR, SLIDING

10153.A32 TOILET ENCLOSURE, OVERHEAD BRACED, STAINLESS STEEL
10200.B20 BIRD SCREENING
10500.A10 LOCKERS

11151.A10 PROJECTION SCREEN

15330.E11 PIPE SLEEVE

PROJ. SPECIFICATION KEYWORD LIST

02802.A10 TOPSOIL
02802.B10 PEAT
02802.B20 FERTILIZER
02821.A10 SEED

03300.B11 STEEL WIRE, PLAIN
03300.B20 WELDED WIRE FABRIC
03300.C11 VAPOR BARRIER, 6 MIL, UNDERSLAB

04200.A10 FACE BRICK
04200.B12 CONCRETE MASONRY UNIT, SOLID, LOAD BEARING

05120.C10 ANCHOR BOLT

06400.D10 HIGH PRESSURE LAMINATE

07200.D11 SOUND ATTENUATION BLANKET
07200.E11 VAPOR BARRIER, 4 MIL
07200.F11 EXTRUDED POLYSTYRENE INSULATION BOARD

08460.A11 AUTOMATIC ENTRANCE DOOR, SLIDING

10153.A32 TOILET ENCLOSURE, OVERHEAD BRACED, STAINLESS STEEL
10200.B20 BIRD SCREENING
10500.A10 LOCKERS

11151.A10 PROJECTION SCREEN

15330.E11 PIPE SLEEVE

PROJ. SPECIFICATION KEYWORD LIST

PROJECT DRAWING KEYNOTE LIST

02802.A10 TOPSOIL
02802.B10 PEAT
02802.B20 FERTILIZER
02821.A10 SEED

03300.B11 STEEL WIRE, PLAIN
03300.B20 WELDED WIRE FABRIC
03300.C11 VAPOR BARRIER, 6 MIL, UNDERSLAB

04200.A10 FACE BRICK
04200.B12 CONCRETE MASONRY UNIT, SOLID, LOAD BEARING

05120.C10 ANCHOR BOLT

06400.D10 HIGH PRESSURE LAMINATE

07200.D11 SOUND ATTENUATION BLANKET
07200.E11 VAPOR BARRIER, 4 MIL
07200.F11 EXTRUDED POLYSTYRENE INSULATION BOARD

08460.A11 AUTOMATIC ENTRANCE DOOR, SLIDING

10153.A32 TOILET ENCLOSURE, OVERHEAD BRACED, STAINLESS STEEL
10200.B20 BIRD SCREENING
10500.A10 LOCKERS

11151.A10 PROJECTION SCREEN

15330.E11 PIPE SLEEVE

UNIT PRICE LISTING NAT95A
1995 National Unit Price Book

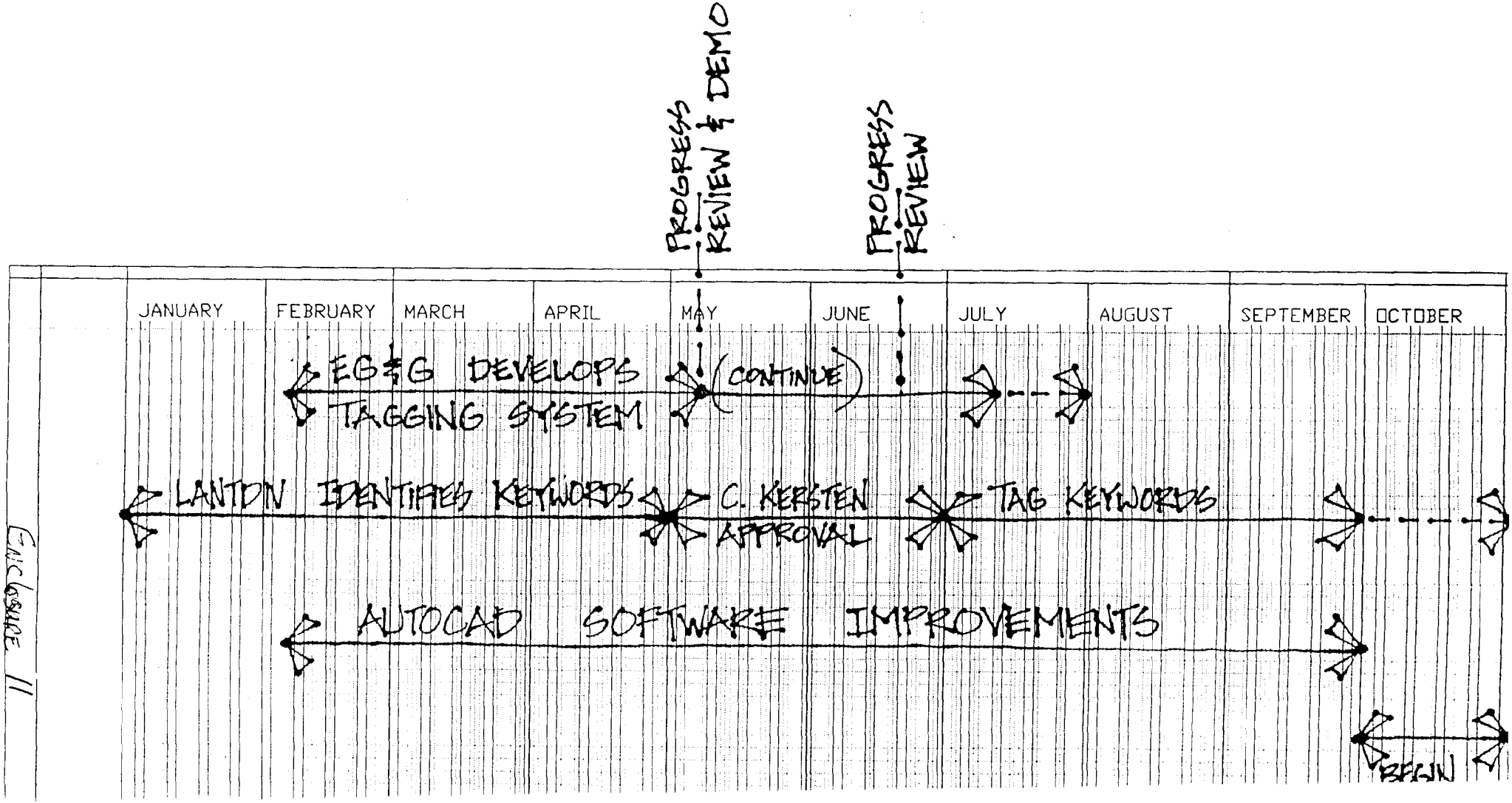
DIVISION 05 Metals		UOM	CREW ID	OUTPUT	MANHRS	LABOR	EQUPMNT	MATERL	UNITCST	TOTAL	SHP KG
05120 1600	Combination Section-S Shapes And Channels										
MIL 05120 1601 SS	30 65 LB/LF	TON	SIWSM	1.13	7.11	191.62	61.92	1770.00	0.00	2023.54	907.18
MIL 05120 1602 SS	65-100 LB/LF	TON	SIWSM	2.00	4.00	107.79	34.83	1380.00	0.00	1522.62	907.18
05120 1700	Combination Section-Channels And Angles										
MIL 05120 1701 SS	0-30 LB/LF	TON	SIWSM	0.38	21.33	574.87	185.75	2400.00	0.00	3160.62	907.18
MIL 05120 1702 SS	30-65 LB/LF	TON	SIWSM	1.13	7.11	191.62	61.92	1950.00	0.00	2203.54	907.18
MIL 05120 1703 SS	65-100 LB/LF	TON	SIWSM	2.00	4.00	107.79	34.83	1415.00	0.00	1557.62	907.18
05120 1800	Combination Section-Channels And Angles										
MIL 05120 1801 SS	0-30 LB/LF	TON	SIWSM	0.38	21.33	574.87	185.75	2465.00	0.00	3225.62	907.18
MIL 05120 1802 SS	30-65 LB/LF	TON	SIWSM	1.13	7.11	191.62	61.92	1775.00	0.00	2028.54	907.18
05120 1900	Pipe-Standard Weight										
MIL 05120 1901 SS	1/2"-5" Diameter Standard Wt.	TON	SIWSM	0.13	64.00	1724.62	557.24	1330.00	0.00	3611.87	907.18
MIL 05120 1902 SS	6"-12" Diameter Standard Wt.	TON	SIWSM	1.00	8.00	215.58	69.66	1630.00	0.00	1915.23	907.18
05120 2000	Miscellaneous Steel										
MIL 05120 2001 SS	1/2"-5" Diameter Extra Strong	TON	SIWSM	0.25	32.00	862.31	278.62	1950.00	0.00	3090.93	907.18
MIL 05120 2002 SS	6"-12" Diameter Extra Strong	TON	SIWSM	1.13	7.11	191.62	61.92	1740.00	0.00	1993.54	907.18

Enclosure 10

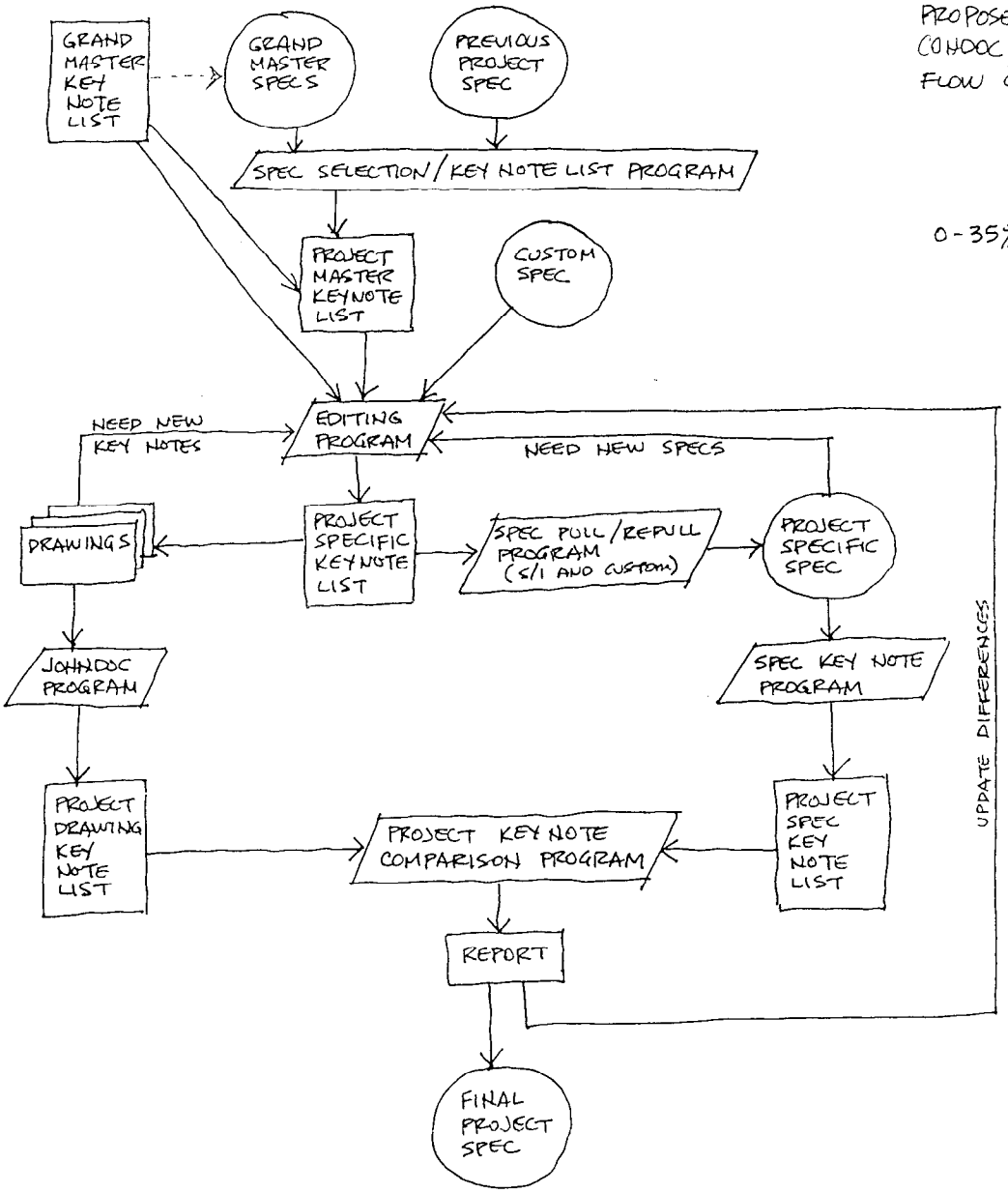
SAMPLE

2/7/97

Navy's schedule



PROPOSED
COHOOC / SPECSINTACT
FLOW CHART



From: Rick Dahnke
To: DIMFS1.DIMLAN Post Office.CGREGORY
Date: 20 Feb 1997 4:53pm
Subject: Our HQ Pubs Home Page Meeting

Chuck, following are some first-brush recommendations and comments from our meeting:

Engineer Guide Specifications should be changed to read *Guide Specifications for Construction* and the link should go to *http://www.hnd.usace.army.mil/techinfo/gspec.html*--this is a little further into TECHINFO than you currently have it. Guide specifications will continue to be uploaded at Huntsville.

Other links should be established for *Engineer Instructions* at *http://www.hnd.usace.army.mil/techinfo/ei.html* and *Architectural and Engineering Instructions* at *http://www.hnd.usace.army.mil/techinfo/aei.html*. These pubs will continue to be maintained by Military Programs, Engineering Division, and will also be uploaded at Huntsville.

Also, it would be good to have a *Recent Changes Index* on line so that we know what pubs have been added and removed. I know there's a *Rescission and Supersession Index* already on line, but it's a lengthy list, it doesn't advertise recently added new pubs, and you have to scrutinize the whole list to determine what was just revised or deleted since the last update of the home page.

I got NIBS to accept the idea of downloading Engineering and Design pubs from TECHINFO for CCB. Jim Quinn will add qualifiers to TECHINFO to advise users that TECHINFO has only an abridged listing of Corps pubs--that the full list is at *http://www.usace.army.mil/inet/usace-docs/*. From the indexes that Jim pulls from the HQ Pubs Site, he will retain the links to Civil Works Engineering and Design pubs, which should solve the problem of missing and outdated pubs on CCB.

Let me know what you think.

CC: S0EA1TAK, S0EA1AY, CEMP.CEMP-R.TMCDAN, CIVIL_WORKS...

Enclosure 12

-(1)-

CENAD-ET-ET 5 March '97

MEMORANDUM FOR Civil Works Specification Steering Committee

SUBJECT: CWGS Notice Program

1. This is a decision paper

2. PROBLEM: HQ Military Programs has offered to assume responsibility for the CW notice program. However, the CWSSC believes other actions need to be addressed before a consolidated CW/MP notice program can become a practical reality

3. RECOMMENDATIONS:

a. HQ MP be extended an invitation to provide representation on the CWSSC.

b. The Charter of the CWSSC be expanded to include military programs as well as HTRW

c. The expanded committee develops a list of CW and MP guide specifications that can be combined into one UFC guide specification

d. The expanded committee assign and/or solicit proponents to ~~produce~~ draft the combined specification

e. MP be assigned notice responsibility for all new combined specifications.

ENCLOSURE 13

D

4. Discussion:

a. The current system of maintaining two sets of guide specifications for military and civil works is inefficient and duplicative of effort.

b. While some specifications may, by their nature, have to remain in their respective stovepipes, many others can be combined. The level of effort for this exercise will vary with the specification from minor to major.

c. The CWSSC already exists as a vehicle for overseeing and coordinating this effort. By expanding its charter to include military as well as HTRW representation, it can become a Corps of Engineers Specifications Steering Committee.

d. The current CW notice program requires a level of institutional knowledge for effective implementation that mitigates against wholesale transfer of this responsibility at this time.

e. Consolidation of notice responsibility as a long term goal is one which the CWSSC believes should be pursued.

f. ~~Utilized~~ Utilizing the combined guide specifications as the prototype for a consolidated notice program ~~would~~ would ensure effective implementation as well as lead to long term savings in both

(3)

the operation and maintenance of the entire specifications program.

John K. Kaczorowski
Vice Chairman, CWSSC

DEPARTMENT OF THE ARMY
U. S. Army Corps of Engineers
Washington, D.C. 20314-1000

ER 1110-2-1250

CECW-EP

Engineering Regulation
No. 1110-2-1250

?? March 1997

Engineering and Design
SPECIFICATIONS ENGINEERING

1. Purpose. This regulation prescribes Specifications Engineering policy and procedures. It is intended to implement Total Army Quality principles and to empower specifications engineers to produce quality specifications for Civil Works projects. It is intended to encourage closer cooperation between the Specifications Engineer, designers, contracting, and contract administration personnel through the use of partnering principles. This regulation has as an additional purpose, the establishment of the Civil Works Steering Committee and the procedures for developing, revising, and updating Civil Works Guide Specifications (CWGS).

2. Applicability. This regulation is applicable to all HQUSACE elements and all major subordinate commands (MSC), districts, laboratories, and field operating activities having civil works construction responsibilities.

3. References.

a. Federal Acquisition Regulation (FAR), Part 11

b. Federal Acquisition Regulation (FAR), Part 36

c. AR 5-1, Army Management Philosophy

d. ER 415-1-10, Contractor Submittal Procedures

e. ER 415-1-11, Biddability, Constructibility, Operability, and Environmental Review

f. ER 715-1-10, Architect-Engineer Responsibility Management Program (AERMP)

g. ER 1110-1-12, Engineer and Design Quality Management

h. ER 1110-2-1150, Engineering and Design for Civil Works Projects

i. ER 1110-2-1200, Plans and Specifications for Civil Works Projects

j. ER 1110-2-1302, Civil Works Cost Engineering

k. ER 1110-345-100, Design Policy for Military Construction

l. ER 1180-1-6, Construction Quality Management

m. Engineering FAR Supplement (EFARS) Subpart 14.2, "Solicitation of Bids"

n. Manual of Practice (MOP), Construction Specifications Institute (CSI)

4. Definitions.

a. Specifications Engineering. The professional discipline of engineering and architecture having as its

Enclosure 14

function the oversight and control of project specifications preparation.

b. *Specifications Engineer.* The term "Specifications Engineer," as used in this regulation, describes the responsibilities of the persons performing specifications engineering functions and not as a term describing an engineering classification series. The functions of the Specifications Engineer are part of the design of a construction project; specifications engineering functions are distinguished in this regulation to differentiate them from other functions performed with respect to the design of a construction project. Each District shall assign the primary responsibility of performing the Specifications Engineering functions to a single individual with qualifying knowledge and experience in preparation of construction contract documents and specifications.

c. Designer. A person exercising the professional discipline of engineering who has design responsibility for certain features (e.g. architectural, structural, mechanical, electrical) of a project which includes the responsibility for the technical content of Division 2-16 sections of the project specifications. Designer functions may be performed by the Specifications Engineer, by a design team, or by individual engineers or architects. In most organizations, the Specifications Engineer will be responsible for the technical content (i.e. designer functions) of Division 1 sections of the project specifications.

d. HQUSACE Specifications Proponent. The person within HQUSACE General Engineering Branch (CECW-EP) who is designated to represent the concerns and needs of the Specifications Engineers at the Districts and Divisions; and the need for efficient preparation of quality project specifications.

e. HQUSACE Technical Policy Proponent. A person who provides technical policy guidance for project specification sections. This policy is contained in policy documents such as Engineering Manuals and Engineering Regulations issued by HQUSACE. Technical policy is reflected in Civil Works Guide Specifications.

f. *Guide Specification Technical Expert.* A person designated by the Civil Works Specifications Steering Committee to serve as a technical expert for a certain guide specification. This person, within the scope of HQUSACE technical policy, is the final authority for the technical content of the Civil Works Guide Specification section for which the Technical Expert has been assigned responsibility.

g. *Civil Works Notice Program Coordinator.* The person assigned to be the point of contact and to oversee the operation of Civil Works Notice Program.

h. Civil Works Specifications Steering Committee (CWSSC). A Division level committee that includes District level representatives, formed for the purpose of assisting and supporting the Specifications Engineers involved in the preparation of Civil Works project specifications at District Offices.

i. Guide Specifications. A system of master specifications which define the qualitative requirements for products, materials, and workmanship for work features that occur in construction on a repetitive basis. The Guide Specifications reflect a standard of quality that will provide a maximum of overall economy, consistent with sound functional, aesthetic, environmental, energy conserving, architectural, and engineering practices.

j. *Civil Works Guide Specifications (CWGS).* Guide specifications, in SPECSINTACT format, maintained under the direction of the Civil Works Specifications Steering Committee (CWSSC) for the purpose of providing the Specifications Engineer a source of master specifications sections useful in the efficient production of quality Civil Works project specifications.

k. Civil Works Notice Program. The program which maintains the CWGS in an up-to-date condition by issuing "notices" of changes.

l. Corps of Engineers Guide Specifications (CEGS). A system of master specifications maintained by Military Programs in SPECSINTACT format for use in preparation of project specifications.

m. Construction Specifications Institute (CSI). An organization with members from all areas of the construction and engineering industry, established with five goals - to improve specifications writing, simplify

specifications, standardize building codes, standardize specifications for government work at all levels, and study new materials and processes. CSI establishes and publishes format and organization standards for use in the preparation of project specifications.

n. Construction Criteria Base (CCB). The set of CD-ROMs developed by the National Institute of Building Sciences. The CD-ROMs contain construction documents from both federal and private organizations, including Army, Navy, and NASA guide specifications and guidance documents. CCB subscribers also have Internet access to CCB through CCB On-Line.

o. SPECSINTACT. The software program, copyrighted to NASA, which is used to produce project specifications and maintain master specifications.

p. Project Specifications. Project (or construction) specifications are construction requirements which apply to a specific item or project at a specific location. Project specifications are those written documents which define the qualitative requirements for products, materials, and workmanship upon which a construction project is based. The plans (or drawings) and specifications make up the principal part of typical construction contract bidding and contracting documents. The plans and specifications together are the product of the design effort for a construction project.

q. Outline Specifications. Outline specifications provide an outline form of construction requirements and are used during the preconstruction engineering and design (PED) phase to help describe the design of structures and related facilities. They are used to supplement sketches, planning drawings, baseline cost estimates, concept documents, and/or design data.

r. Preliminary Bid Schedule. A preliminary bid schedule is a document prepared during the preconstruction engineering and design (PED) phase to help identify the features of a project for which there will be individual measurement of quantities and payment under each contract. The preliminary bid schedule contains a description of the work to be paid for under each bid schedule item and must be consistent with the requirements of the Civil Works Breakdown Structure. The preliminary bid schedule forms the basis for identifying and delimiting the bid items in the plans and specifications, for division of costs in the cost estimate, and for identifying possible difficulties in administering the contract.

5. Specifications Engineering during Project Phases. The Specifications Engineer must be involved during all phases of a project (i.e. Planning, Preconstruction Engineering and Design (PED), Final Design, Bidding, Construction, and Operation). The Specifications Engineer must be knowledgeable in construction contracts, procurement procedures, and contract administration during construction. The Specifications Engineer has the responsibility of being an expert in the overall area of construction contract documents. The Specifications Engineer understands how the drawings, technical specifications, and nontechnical provisions interrelate; understands procurement procedures which are appropriate for construction contracts; and provides advice on these issues. Although the major involvement of the Specifications Engineer is during the final design phase of a project, the other phases must not be overlooked. During the planning phase, the Specifications Engineer should provide an estimated specifications engineering cost for inclusion in the plan. Any unusual specifications problems should be identified and addressed during the planning phase. During the preconstruction engineering and design phase, the Specifications Engineer should become involved with the project; provide a Preliminary Bid Schedule in close coordination with Contracting, Project Management, Designers, Cost Engineering, and Construction Division; and provide outline specifications for more complex projects. Involvement during the Final Design phase is discussed at length below under the heading "Preparation of Project Specifications". The Specifications Engineer must be thoroughly familiar with bidding procedures and bidding requirements. The Specifications Engineer must be aware of technical policy established by HQUSACE and assure that project specifications comply with those policies. The Specifications Engineer must be aware of the problems of contract administration during the construction phase of a project and must institute measures to properly address contract administration requirements in the project specifications. The Specifications Engineer (or his/her staff) should make field trips during the Construction Phase of projects so that specifications problems and problems of contract administration can be identified and avoided in future project specifications. During the Operations Phase of the project, the Specifications Engineer should note any problems which could have been prevented by improved specifications and take action to prevent reoccurrence

of the problem in future construction (e.g. recommend changes in Civil Works Guide Specifications).

6. Training. The Specifications Engineer and persons involved in preparation of specifications must have proper training. The Specifications Engineer and persons working within the Specifications Engineering group, as well as Designers and Design Supervisors, should attend the Corps of Engineers Prospect course, "Specifications for Construction Contracts." The Specifications Engineer should be provided training in bidding procedures and the preparation of the non-technical provisions of the contract documents. The Specifications Engineer group should be provided training in personal computer software, SPECSINTACT, and, if SPECSINTACT is used on a network, in network operation and software. Specifications Engineers are encouraged to become Certified Construction Specifiers under the Construction Specifications Institutes certification program.

7. HQUSACE Specifications Proponent. The HQUSACE Specifications Proponent will use feedback from the Civil Works Specifications Steering Committee (CWSSC) and other sources to stay abreast of Specifications Engineering issues facing Specifications Engineers at the Districts and Division Offices. The Specifications Proponent will assure that those issues are addressed at HQUSACE level. The Specifications Proponent will maintain liaison with the Military Programs Specifications Proponent as well as Specifications Proponents from other agencies and DOD departments. The Specifications Proponent will represent Civil Works concerns in specifications issues involving other agencies and departments (e.g. SPECSINTACT software enhancements and CCB CD-ROM issues).

8. Civil Works Specifications Steering Committee (CWSSC). The CWSSC will assist and support the Specifications Engineers involved in the preparation of Civil Works project specifications by providing policy recommendations to HQUSACE; developing recommendations to Districts which will increase the quality and efficiency of producing project specifications; developing recommendations for new Civil Works Guide Specification sections; developing recommendations for elimination or archiving of guide specifications; and providing oversight and control of the CWGS Notice Program. The committee will be made up of the HQUSACE specifications proponent, permanent members from each of the Division Offices, the Notice Program Coordinator, and four at large members from District Offices. The chairman will be elected by the committee. The Chief of Engineering for Division Office shall appoint a person to representative that Division on the committee and to serve as that Division's proponent for Specifications Engineering issues. If the Division representative cannot attend any of the meetings, the representative will send a person in his/her place. When an at large member's term ends, or a vacancy occurs, District Offices will be asked to nominate persons to serve as at large members. The CWSSC will select "at large" members from the District nominees. The "at large" members will be full voting members. "At large" members may not serve on the CWSSC for more than four years. The Notice Program Coordinator will be a voting member of the committee.

9. Civil Works Guide Specifications (CWGS).

a. CWGS purpose. The purpose of CWGS is to provide Districts a set of master specifications (reflecting HQUSACE technical policy) to enhance productivity, quality, and standardization of Civil Works project specifications. The CWGS system provides Districts with specification sections which are unique to Civil Works type projects and which can be used in conjunction with other Army, Navy, and NASA specifications to produce project specifications. CWGS allow Districts preparing Civil Works project specifications to take advantage of the efficiencies which can be gained by use of SPECSINTACT software. CWGS allow lessons learned and technological advances to be incorporated into the CWGS, benefiting all Civil Works projects. Quality of project specifications will be improved by use of automated processing methods along with well maintained guide specifications. CWGS promote Civil Works policy by increasing uniformity and consistency of Civil Works project specifications. Uniformity and consistency of project specifications benefits contractors in their preparation of bids, improves quality of construction, and reduces cost to local sponsors. CWGS promote broad and open competition in procurement (FAR Subpart 11.002).

b. CWGS Management and Distribution. CWGS are prepared under the direction of the Civil Works Specifications Steering Committee (CWSSC) and are distributed electronically through the National Institute of Building Services (NIBS) Construction Criteria Base (CCB).

c. CWGS Maintenance. CWGS are maintained in an up-to-date condition by the procedures described below under CWGS Notice Program.

d. CWGS Funding. The maintenance of the CWGS system and the travel and per diem cost of the Civil Works Steering Committee (CWSSC), will be funded through HQUSACE.

10. Preparation of Outline Specifications. Outline specifications used for the preconstruction design phase should consist of a concise but clear-cut identification of applicable specification criteria, should include a list of the sections proposed for the technical provisions, and should indicate the sections for which CWGS or CEGS are available.

11. Preparation of Project Specifications.

a. General Requirements. Project specifications shall be developed under the direction of the District's Specifications Engineer. The Specifications Engineer is responsible for assuring that high quality specifications are prepared, assuring that the concerns of the construction administrators and contracting are met, and assuring that the project specifications comply with industry standards for format and content as established by the Construction Specifications Institute Manual of Practice. Project specifications should, when combined with the project drawings, provide a complete and comprehensive set of contract design documents which can be bid on fairly and competitively and which can be executed without change, except as necessary to deal with unforeseen project conditions or to accomplish changes made during construction (see ER 1180-1-6 and ER 415-1-11 for guidance on biddability, constructibility, operability, and environmental review). Where a previous project design is adapted for use on a project, or where a project design has been completed and held in abeyance for a period of time, the Specifications Engineer, in coordination with designers, will determine the extent to which the project specifications must be reworked before the project can proceed to advertisement.

b. Specifications Engineer / Designer Relationship. In order to produce a complete and accurate set of project specifications, the Specifications Engineer and the Designers must work closely together. (Note: it is not necessary that the Designer be a different person from Specifications Engineer in all situations. The Specifications Engineer may also act as a Designer for certain technical features of a project.) The close coordination of efforts of the Specifications Engineer and the Designers is particularly important during the final design phase of a project when the project specifications are finalized. Designers are responsible for the design of a technical project features, and are responsible for the technical content of the project specifications for those features. The Specifications Engineer is responsible for the format of the sections and assuring that proper contract language is used in the project specifications. The Specifications Engineer is responsible for the project specific information which must be inserted into the non-technical provisions, and the technical content of the General Requirements (Division 1) sections. The Specifications Engineer is responsible for preparing the Bid Schedule (both the Preliminary Bid Schedule during the PED phase and the final bid schedule for contract award) in close coordination with Contracting, Project Management, Design, Cost Engineering, and Construction Division. The lump sum and unit priced items defined for incorporation in the bid schedule must be consistent with the work breakdown structure. The bid schedule must conform to USACE guidance and all aspects of the Federal Acquisition Regulations (FAR Subpart 36.207). The Specifications Engineer must support the Designer in the preparation of the specifications by helping locate guide specification sections which can be used in the project, operating the SPECSINTACT software, and by overseeing the input of the Designer's mark-up of the guide specifications. (The Designer's mark-up may be entered by the Specifications Engineer or someone working directly for the Specifications Engineer, or it may be entered by the Designer doing on-screen mark-up/editing.) The Designer must select the guide specifications to be used in the project, mark up those sections to reflect the design (or directly edit those sections on-screen), and prepare any technical requirements for which no guide specification exists. When new specification sections must be developed either for an in-house master set of specifications or for a particular project, the Designer and the Specifications Engineer must work closely together. The Designer should provide the technical information and the Specifications Engineer should make sure that the section uses proper language and is properly formatted. The Specifications Engineer will perform quality checks (e.g. SPECSINTACT reports, visual scan of pages for obvious errors, and verifying specification inserts such as the submittal register) on the specifications prior to furnishing them for advertisement.

c. Use of Civil Works Guide Specifications. Guide specifications are intended to be a useful tool for developing project specifications. Guide specifications must be tailored to fit specific project requirements. Each guide specification contains notes providing guidance on use of the specification and the coordination required with the other specification sections included in the project and with the project drawings. Civil Works Guide Specifications used in conjunction with Military Programs Guide specifications provide a complete set of master specifications suitable for use on most projects. Guide specifications which are common to both Civil Works and Military Programs are maintained in the Corps of Engineers Guide Specifications (CEGS) system or the Civil Works Guide Specifications (CWGS) system (e.g. CEGS Section for "Contractor Quality Control"; CEGS Section for "Submittal Procedures"; CWGS Section for "Environmental Protection"). Recommendations concerning the use of CWGS and CEGS in the preparation of Civil Works project specifications are contained in the document entitled "CWGS General Notes" which is maintained with the guide specifications.

d. Use of Automated Methods. SPECSINTACT is a proven software system which produces high quality construction project specifications. The SPECSINTACT automated system provides state-of-the-art specifications automation to users. Software features are established through a cooperative effort by Army, Navy, and NASA. SPECSINTACT includes a wide range of automated functions, and these functions are continually being refined and expanded to better serve the user. This cooperative effort provides greater uniformity and better transportability of guide specifications, provides a more economical means of producing project specifications, and makes it easier to use guide specifications of the other departments and agencies. Maximum efficiency and quality is obtained when project specifications are prepared using SPECSINTACT software and guide specifications edited to suit the specific requirements of the project. The use of SPECSINTACT will be mandatory for production of all Civil Works project specifications one year from the date of this regulation.

e. Specifications Prepared by Architect-Engineers. The requirement to use SPECSINTACT for production of project specifications will be included in all procurement of AE design services. The division or district office having responsibility for the project will assist the architect-engineer by providing copies of regulations, manuals, engineer technical letters, and other information not available on the Construction Criteria Base (CCB). AE firms under contract with U. S. Department of Defense agencies may receive a no-cost subscription to CCB by providing documentation of their contract to the National Institute of Building Sciences. The Specifications Engineer will provide guidance to architect-engineer firms on preparation of Division 1 sections and provide District unique information to be incorporated in the Division 1 sections. Previous project specifications may be furnished as samples of the form and content for completed work but may not be used as guides except for sections for which no applicable guide specifications are available.

f. Construction Documents Format. Construction contracts shall be prepared in accordance with the HQUSACE format for construction contracts given in, EFARS Subpart 14.2, "Solicitation of Bids." Specification section numbering will follow CSI MasterFormat. The format of the sections within the specifications shall be based upon the CSI section format as modified under the recommended section organization guidance (i.e. CEGS 01010) for CEGS specifications.

g. Submittals of Technical Data and Samples. Submittals of shop drawings, test reports, certificates, and samples will not be required for noncritical items of relatively low value as compared to the cost of making the submittal; that is, a submittal will not be required when the cost will exceed the benefit to the project (see ER 415-1-10 for contractor submittal requirements). Avoidance of such submittal requirements is particularly encouraged for small projects. However, where guide specifications contain detailed technical submittal requirements which are extensions of design or which contain information critical to safety, construction execution, or proper operation of the completed project, such provisions must be retained.

h. Testing. Except where testing must be performed by the Government to ensure suitability, testing will be made the responsibility of the contractor under the Contractor Quality Control provisions of the specifications (see ER 1180-1-6 for construction quality management). Requirements in the specifications making testing the contractor's responsibility, will not be written in such a way as to abrogate the right of the contracting officer to perform confirmation testing and quality assurance testing, or to witness testing by the contractor. Testing will be kept to a minimum and will be done only when necessary to assure the quality of critical construction.

i. New Materials and Methods. New or untried materials or methods of construction should be avoided until the merits of the methods or materials have been established.

j. Brand Names and Proprietary Items. Specifying items peculiar to one manufacturer either by brand name or peculiar characteristic is prohibited unless specially justified and approved (See FAR, Subpart 11.104). "Brand name or equal" descriptions are appropriate only as a last resort and should be used with great care and discretion. Where the "brand name or equal" approach is used, the contract provisions will include those salient features of the item or items specified upon which equality will be determined (See FAR, Subpart 36.202c).

k. Guarantees. Requirements for guarantees, beyond the normal one year warranty of construction period, will be specified only for materials, equipment or systems for which such longer guarantees are normally provided in the industry.

l. Referenced Publications. Materials and equipment will be described, where possible, by reference to industry and Government standards, generally known to the industry, and by citing the type, class or other designation necessary to identify the product required. Reference standards should not be used to describe minor, noncritical items (such as incidental fasteners) when any commercially available product of that nature would be adequate. To the maximum extent practicable, references will be to nationally recognized industry and technical society specifications and standards. If industry documents are unavailable or unsuitable, applicable Commercial Item Descriptions may be referenced. The reference approval date and the dates of any applicable amendment and revisions will be included in the solicitation (FAR Subpart 11.201a). Publications not readily available to bidders, such as engineer regulations (ER), engineer technical letters (ETL), and technical manuals (TM), should not be referenced and if referenced must be furnished with the solicitation (FAR Subpart 11.201b).

12. <u>CWGS Notice Program.</u>

a. General. This program is responsible for updating and maintaining Civil Works Guide Specifications on a continuous basis to reflect changes in technology, standards, and referenced publications. This program also assures that the CWGS are useable with SPECSINTACT software. When necessary to make technical changes and update the guide specifications, changes to CWGS series specifications are issued in the form of "Notices". CWGS specifications with "Notice" updates are available on the CCB CD-ROM, and an Internet Web Page maintained by U.S. Army Engineering and Support Center, Huntsville. The CWGS Notice Program will be funded through the CWGS program.

b. Program Control. The Civil Works Specifications Steering Committee (CWSSC) will be responsible for oversight, policy, and programming and budgeting for the Notice Program. The CWSSC will address the concerns of Civil Works Specifications Engineers. The (CWSSC) is intended to represent the desires of the District Specifications Engineers toward maintaining and improving Civil Works specifications. The (CWSSC) will designate the CWGS sections to be maintained under the program, and will select a person to be the Guide Specification Technical Expert for each section. Persons designated as Guide Specification Technical Experts may work in Districts, Laboratories, Divisions, or HQUSACE. The designated Guide Specification Technical Expert for a specification section will be the final authority on technical matters with respect to CWGS sections, until such time as a new Guide Specification Technical Expert is appointed. The efforts of Guide Specification Technical Experts at District Offices will be funded through the CWGS Notice Program.

c. Program Operation. The Vicksburg District will execute the updating and maintenance functions of the CWGS Notice Program. They will maintain a reference library necessary for assuring that the most recent references are contained in the specifications and supply copies of update reference materials, when requested, to the Guide Specification Technical Expert for review of Notice changes. The Vicksburg District will review the referenced documents in CWGS sections and make recommendations for changes to the designated Guide Specification Technical Expert. Minor editorial type changes, not requiring technical input, may be made by the Vicksburg District without submission to the Guide Specification Technical Expert for approval. The Guide Specification Technical Expert will review the recommended changes to the guide specification and based upon the Technical Expert's technical expertise and HQUSACE technical policy, determine the changes to be made and approve the change. Upon Guide Specification Technical Expert approval of changes to CWGS, the Vicksburg

District will issue a "Notice" revising the section and forwarding an electronic copy to U.S. Army Engineering and Support Center, Huntsville for inclusion on the Internet Web Page, and on the CCB CD-ROM. The Vicksburg District as part of the Notice program effort will maintain a historical 10 year copy of CCB CD-ROM disks.

d. Notice Program Coordinator. A Notice Program Coordinator will be appointed by the HQUSACE Specifications Proponent. The coordinator will have the duties of oversight and control of the daily activities of accomplishing the Notice Program. The Coordinator will maintain appropriate tracking logs, lists of Vicksburg District technical points of contact for each CWGS, and lists of Guide Specification Technical Experts for each CWGS. The Notice Program Coordinator will represent the Civil Works program at meetings of the SPECSINTACT Interagency Configuration Control and Coordinating Board (SI-CCCB).

e. Recommended Changes. HQUSACE welcomes proposals for technical or editorial changes to criteria or CWGS that are necessary or desirable either for general application or to adequately reflect local availability of materials and local construction practice. Such proposals will be addressed to HQUSACE (CECW-EP) by submitting ENG Form 3078 in accordance with ER 1110-345-100.

FOR THE COMMANDER:

CIVIL WORKS DEPARTMENT HEADQUARTERS OFFICES

ADDRESS:
Department of the Army
U.S. Army Corps of Engineers
ATTN: CECW-EP, room 6121-C
Massachusetts Avenue, NW
Washington, DC 20314-1000

TELEPHONE NO.: (202) 761-8894

CIVIL WORKS GUIDE SPECIFICATIONS

as of Feb-97

CWGS Section	Title	Date	Tech Rep	Phone #	Office	HQ Proponent	Phone #	HQ Office	Current Notice	Date
01000	CWGS General Notes	Feb-94	Tom Shaw	(601)631-5579	CELMK-ED-DE	Charles Baldi	202-761-8894	CECW-EP	1	Sep-95
01025	Measurement and Payment	Feb-94	Tom Shaw	(601)631-5579	CELMK-ED-DE	Charles Baldi	202-761-8894	CECW-EP	2	Mar-96
01130	Environmental Protection	Oct-95	David Wallace	(601)631-5981	CELMK-ED-DF	Charles Baldi	202-761-8894	CECW-EP		
01332	Survey Markers and Monuments	Jan-93	John Knight	(601)631-5703	CELMK-ED-AS	M. K. Miles	202-761-8885	CECW-EP	Hold	Mar-93
01565	Storm Water Pollution Prevention Measures	Sep-96	David Wallace	(601)631-5981	CELMK-ED-DF	Charles Baldi	202-761-8894	CECW-EP		
02010	Subsurface, Drilling, Sampling, and Testing	Oct-95	George Sills	(601)631-5631	CELMK-ED-GT	M.J. Klosterman	202-761-8682	CECW-EG		
02148	Relief Wells	Feb-94	George Hunt	(601)631-5639	CELMK-ED-GT	Arthur Waltz	202-761-8681	CECW-EG	2	Sep-95
02211	Clearing (Timber and Structure)	Nov-92	P. B. Sloan	(601)631-5565	CELMK-ED-DF	Jim Chang	202-761-0419	CECW-EG	2	May-96
02212	Embankment for Earth Dams	Aug-94	Charles Mendrop	(601)631-5208	CELMK-ED-GA	Jim Chang	202-761-0419	CECW-EG	1	May-94
02214	Soil-Bentonite Slurry Trench Cutoff	Oct-92	George Sills	(601)631-5631	CELMK-ED-GT	Jim Chang	202-761-0419	CECW-EG	1	May-96
02215	Geotextiles Used as Filters	May-95	Dale Goss	(601)631-5640	CELMK-ED-GT	Jim Chang	202-761-0419	CECW-EG	1	Sep-95
02219	Foundation Preparation	Dec-92	George Hunt	(601)631-5639	CELMK-ED-GT	Jim Chang	202-761-0419	CECW-EG	3	Sep-95
02249	Foundation Drilling and Grouting	Oct-95	George Hunt	(601)631-5639	CELMK-ED-GT	M. J. Klosterman	202-761-8682	CECW-EG	1	Mar-96
02311	Round Timber Piles for Hydraulic Structures	Oct-95	Timothy Graham	(601)631-7193	CELMK-ED-DS	Paul Tan	202-761-8671	CECW-ED	1	May-96
02315	Steel H-Piles	May-95	Ed Schilling	(601)631-5548	CELMK-ED-DS	Paul Tan	202-761-8671	CECW-ED	2	Sep-95
02330	Tunnel and Shaft Grouting	Sep-95	George Hunt	(601)631-5639	CELMK-ED-GT	M. J. Klosterman	202-761-8682	CECW-EG	1	Mar-96
02365	Prestressed Concrete Piling	Nov-94	Sills / Dennis	(601)631-5631	CELMK-ED-GT	Charles Baldi	202-761-8894	CECW-EP		
02411	Metal Sheet Piling	May-92	John Trest	(601)631-7049	CELMK-ED-DF	Charles Baldi	202-761-8894	CECW-EP	3	Mar-96
02541	Wire Mesh Gabions	Dec-92	Dale Goss	(601)631-5640	CELMK-ED-GT	Jim Chang	202-761-0419	CECW-EG	1	Jun-93
02542	Stone Protection	Mar-96	Dale Goss	(601)631-5640	CELMK-ED-GT	Jim Chang	202-761-0419	CECW-EG	3078	Apr-96
03101	Formwork for Concrete	Dec-92	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	3	Sep-95
03150	Expansion, Contraction and Construction Joints in Concrete	Apr-93	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	2	Oct-94
03210	Steel Bars and Welded Wire Fabric for Concrete Reinforcement	Apr-93	Tommy Tucker	(601)631-5055	CELMK-ED-DS	Don Dressler	202-761-0220	CECW-ED	1	Dec-93
03230	Steel Stressing Tendons and Accessories for Prestressed Concrete	Dec-92	John Burnworth	(601)631-5553	CELMK-ED-DS	Charles Baldi	202-761-8894	CECW-EP	1	Feb-97
03301	Cast-in- Place Structural Concrete	Mar-94	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	2	Nov-94
03305	Mass Concrete	Jul-92	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	2	Nov-94
03307	Concrete for Minor Structures	Dec-92	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	3	Oct-95
03360	Roller-Compacted Concrete for Mass Concrete Construction	Feb-94	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	1	Apr-94
03361	Shotcrete	May-95	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	1	Sep-95
03362	Preplaced-Aggregate Concrete	Nov-94	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	1	Sep-95
03365	Concrete for Concrete Cutoff Walls	Aug-95	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG	1	Sep-95
03425	Precast-Prestressed Concrete	Jan-96	Dale Goss	(601)631-5640	CELMK-ED-GT	M. K. Lee	202-761-0412	CECW-EG		
05036	Metalizing: Hydraulic Structures	Sep-92	Garland Cary	(601)631-5573	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	2	Oct-94
05101	Metalwork Fabrication, Machine Work, Miscellaneous Provisions	Dec-92	Robert Hite	(601)631-7223	CELMK-ED-DK	Paul Tan	202-761-8671	CECW-ED	3	Sep-95
05502	Metals: Miscellaneous, Standard Articles, Shop Fabricated Items	May-92	Daniel Chieply	(601)631-5144	CELMK-ED-DS	Charles Baldi	202-761-8894	CECW-EP	3	May-94
05911	Miter Gates	Jan-94	John Burnworth	(601)631-5553	CELMK-ED-DS	Paul Tan	202-761-8671	CECW-ED		
05912	Sector Gates	Jan-94	John Burnworth	(601)631-5553	CELMK-ED-DS	Paul Tan	202-761-8671	CECW-ED		
05913	Tainter Gates and Anchorages	Jan-94	John Burnworth	(601)631-5553	CELMK-ED-DS	Paul Tan	202-761-8671	CECW-ED	1	Feb-94
05914	Vertical Lift Gates	Jul-93	Daniel Chieply	(601)631-5144	CELMK-ED-DS	Joe Hartman	202-761-0291	CECW-ED	1	Aug-93
05915	Stoplogs	Apr-93	Ed Schilling	(601)631-5548	CELMK-ED-DS	Joe Hartman	202-761-0291	CECW-ED	2	Sep-95
05916	Closure Gates	Apr-93	Daniel Chieply	(601)631-5144	CELMK-ED-DS	Joe Hartman	202-761-0291	CECW-ED	2	Apr-94
09940	Painting: Hydraulic Structures	Dec-95	Fred Lee	(601)631-5576	CELMK-ED-DK	Charles Baldi	202-761-8894	CECW-EP		
11212	Speed Reducers for Storm Water Pumps	Nov-92	Fred Lee	(601)631-5576	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	3	May-96
11290	Hydraulic Power Systems for Civil Works Structures	Apr-92	Robert Hite	(601)631-7223	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	3	May-96
14210	Elevators, Electric	Jan-94	Robert Hite	(601)631-7223	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Apr-94
14330	Indoor Traveling Bridge Crane	Dec-95	Robert Hite	(601)631-7223	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE		

CIVIL WORKS GUIDE SPECIFICATIONS

as of Feb-97

CWGS Section	Title	Date	Tech Rep	Phone #	Office	HQ Proponent	Phone #	HQ Office	Current Notice	Date
14340	Dam Gantry Crane	Feb-96	Robert Hite	(601)631-7223	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Jul-96
14601	Cranes, Bridge & Gantry, Top Running, 30-Ton Maximum Capacity	Apr-94	Fred Lee	(601)631-5576	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Jun-94
14602	Cranes, Single-Girder Bridge, Monorail and Jib	Aug-95	Fred Lee	(601)631-5576	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE		
14615	Electrical Equipment for Gate Hoist	Sep-93	Henry Dulaney	(601)631-7724	CELMK-ED-DL	John Gilson	202-761-8617	CECW-EE	1	Nov-93
15160	Vertical Pumps, Axial-Flow and Mixed-Flow Impeller-Type	Jun-93	Jeff Artman	(601)631-5577	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE		
15161	Submersible Pumps, Axial-Flow and Mixed-Flow Impeller-Type	Aug-96	Jeff Artman	(601)631-5577	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE		
15165	[Diesel] [Natural Gas Fueled] Engine Pump Drives	Jan-97	Jeff Artman	(601)631-5577	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE		
15170	Electric Motors, 3-Phase Vertical Induction Type	Nov-92	Hank Braswell	(601)631-5742	CELMK-ED-DK	John Gilson	202-761-8617	CECW-EE	1	Oct.-93
15171	Electric Motors, 3-Phase Vertical Synchronous Type	Sep-93	Hank Braswell	(601)631-5742	CELMK-ED-DK	John Gilson	202-761-8617	CECW-EE	1	Nov-93
15360	Carbon Dioxide Fire Extinguishing Equipment	Apr-93	Robert Hite	(601)631-7223	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	1	Nov-93
15487	Turbine Lubricating Oil	Nov-92	Tom Shaw	(601)631-5579	CELMK-ED-DE	Andy Wu	202-761-8614	CECW-EE	2	Feb-94
16120	Insulated Wire and Cable	Nov-92	Wesley Hanks	(601)631-5580	CELMK-ED-DK	John Gilson	202-761-8617	CECW-EE	2	Oct-94
16210	Hydraulic-Turbine-Driven Alternating-Current Generators	Jan-94	Garland Cary	(601)631-5573	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Oct-94
16211	Rewind of Hydraulic-Turbine-Driven Alternating-Current Generator	Jan-93	Wesley Hanks	(601)631-5580	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Oct-93
16251	Excitation System Retrofits Hydro-turbine AC Generators	Sep-93	Hank Braswell	(601)631-5742	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	1	Nov-93
16252	Governors for Hydraulic Turbines and Pump Turbines	Jun-93	Wesley Hanks	(601)631-5580	CELMK-ED-DK	Andy Wu	202-761-8614	CECW-EE	1	Nov-93
16320	Power Transformers (69 kv to 230 kv)	Aug-95	Garland Cary	(601)631-5573	CELMK-ED-DK	John Gilson	202-761-8617	CECW-EE	1	Sep-95
16321	Electrical Insulating Mineral Oil	Apr-92	Wesley Hanks	(601)631-5580	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	2	Feb-94
16340	Outdoor Station Class Metal-Oxide Type Surge Arrestors	Sep-93	Hank Braswell	(601)631-5742	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Nov-93
16345	Metal Clad Switchgear, Bus, and Grounding Equipment	Jul-93	Wesley Hanks	(601)631-5580	CELMK-ED-DK	John Gilson	202-761-8617	CECW-EE	1	Nov-93
16367	Outdoor Group-Operated Disconnecting Switches & Insulators	Aug-95	Henry Dulaney	(601)631-7724	CELMK-ED-DL	John Gilson	202-761-8617	CECW-EE		
16403	Motor Control Centers, Switchboards and Panelboards	Aug-95	Henry Dulaney	(601)631-7724	CELMK-ED-DL	John Gilson	202-761-8617	CECW-EE		
16404	480-Volt Station Service Switchgear and Transformers	Nov-92	Wesley Hanks	(601)631-5580	CELMK-ED-DK	Dan Casapulla	202-761-4535	CECW-EE	1	Nov-94
16701	Global Positioning System (GPS) Survey Receivers	Jan-93	Archived 4/29/96		CELMK-ED-	M.K. Miles	202-761-8885	CECW-EP		
16702	Real-Time Differential Global Positioning System	Jan-93	Archived 4/29/96		CELMK-ED-	M.K. Miles	202-761-8885	CECW-EP		
16740	Automated Data Acquistion System	Jan-93	Holding 4/8/93		CELMK-ED-		202-761-			

CIVIL WORKS GUIDE SPECIFICATIONS

Feb-97

CWGS Section	Title	Date	NEW TECH REP NEEDED?	To HDC
01000	CWGS General Notes	Feb-94	N	
01025	Measurement and Payment	Feb-94	N	
01130	Environmental Protection	Oct-95	N	
01332	Survey Markers and Monuments	Jan-93	N	
01565	Storm Water Pollution Prevention Measures	Sep-96	N	
02010	Subsurface, Drilling, Sampling, and Testing	Oct-95	N	
02148	Relief Wells	Feb-94	N	
02211	Clearing (Timber and Structure)	Nov-92	Y	
02212	Embankment for Earth Dams	Aug-94	N	
02214	Soil-Bentonite Slurry Trench Cutoff	Oct-92	N	
02215	Geotextiles Used as Filters	May-95	N	
02219	Foundation Preparation	Dec-92	N	
02249	Foundation Drilling and Grouting	Oct-95	N	
02311	Round Timber Piles for Hydraulic Structures	Oct-95	N	
02315	Steel H-Piles	May-95	N	
02330	Tunnel and Shaft Grouting	Sep-95	N	
02365	Prestressed Concrete Piling	Nov-94	N	
02411	Metal Sheet Piling	May-92	N	
02541	Wire Mesh Gabions	Dec-92	N	
02542	Stone Protection	Mar-96	N	
03101	Formwork for Concrete	Dec-92	N	
03150	Expansion, Contraction and Construction Joints in Concrete	Apr-93	N	
03210	Steel Bars and Welded Wire Fabric for Concrete Reinforcement	Apr-93	N	
03230	Steel Stressing Tendons and Accessories for Prestressed Concrete	Dec-92	Y	
03301	Cast-in- Place Structural Concrete	Mar-94	N	
03305	Mass Concrete	Jul-92	N	
03307	Concrete for Minor Structures	Dec-92	N	
03360	Roller-Compacted Concrete for Mass Concrete Construction	Feb-94	N	
03361	Shotcrete	May-95	N	
03362	Preplaced-Aggregate Concrete	Nov-94	N	
03365	Concrete for Concrete Cutoff Walls	Aug-95	N	
03425	Precast-Prestressed Concrete	Jan-96	N	
05036	Metalizing: Hydraulic Structures	Sep-92	Y	
05101	Metalwork Fabrication, Machine Work, Miscellaneous Provisions	Dec-92	N	
05502	Metals: Miscellaneous, Standard Articles, Shop Fabricated Items	May-92	N	
05911	Miter Gates	Jan-94	Y	
05912	Sector Gates	Jan-94	Y	
05913	Tainter Gates and Anchorages	Jan-94	Y	
05914	Vertical Lift Gates	Jul-93	N	
05915	Stoplogs	Apr-93	N	
05916	Closure Gates	Apr-93	N	
09940	Painting: Hydraulic Structures	Dec-95	N	
11212	Speed Reducers for Storm Water Pumps	Nov-92	N	
11290	Hydraulic Power Systems for Civil Works Structures	Apr-92	N	
14210	Elevators, Electric	Jan-94	N	
14330	Indoor Traveling Bridge Crane	Dec-95	N	Y
14340	Dam Gantry Crane	Feb-96	N	Y
14601	Cranes, Bridge & Gantry, Top Running, 30-Ton Maximum Capacity	Apr-94	N	
14602	Cranes, Single-Girder Bridge, Monorail and Jib	Aug-95	N	
14615	Electrical Equipment for Gate Hoist	Sep-93	N	
15160	Vertical Pumps, Axial-Flow and Mixed-Flow Impeller-Type	Jun-93	N	

Enclosure 16

15161	Submersible Pumps, Axial-Flow and Mixed-Flow Impeller-Type	Aug-96	N	
15165	[Diesel] [Natural Gas Fueled] Engine Pump Drives	Jan-97	N	
15170	Electric Motors, 3-Phase Vertical Induction Type	Nov-92	Y	
15171	Electric Motors, 3-Phase Vertical Synchronous Type	Sep-93	Y	
15360	Carbon Dioxide Fire Extinguishing Equipment	Apr-93	N	Y
15487	Turbine Lubricating Oil	Nov-92	N	Y
16120	Insulated Wire and Cable	Nov-92	Y	
16210	Hydraulic-Turbine-Driven Alternating-Current Generators	Jan-94	N	Y
16211	Rewind of Hydraulic-Turbine-Driven Alternating-Current Generator	Jan-93	N	Y
16251	Excitation System Retrofits Hydro-turbine AC Generators	Sep-93	N	Y
16252	Governors for Hydraulic Turbines and Pump Turbines	Jun-93	N	Y
16320	Power Transformers (69 kv to 230 kv)	Aug-95	N	Y
16321	Electrical Insulating Mineral Oil	Apr-92	N	Y
16340	Outdoor Station Class Metal-Oxide Type Surge Arrestors	Sep-93	N	Y
16345	Metal Clad Switchgear, Bus, and Grounding Equipment	Jul-93	N	Y
16367	Outdoor Group-Operated Disconnecting Switches & Insulators	Aug-95	N	Y
16403	Motor Control Centers, Switchboards and Panelboards	Aug-95	N	
16404	480-Volt Station Service Switchgear and Transformers	Nov-92	Y	
16701	Global Positioning System (GPS) Survey Receivers	Jan-93	N	
16702	Real-Time Differential Global Positioning System	Jan-93	N	
16740	Automated Data Acquistion System	Jan-93	N	Y

CESAW-EP-EE 26 February 1997

MEMORANDUM FOR Civil Works Specifications Steering Committee

SUBJECT: Guidance for Formatting and Preparing Construction Contracts

1. This is an information paper.

2. PURPOSE: The Corps of Engineers initiative to achieve uniformity in construction solicitations and contracts has not been achieved despite the development of standard formats and regulations mandating their use. This paper provides information for the steering committee to consider in deciding whether or not a guidance document on format is needed.

3. RECOMMENDED USE: This information paper is provided for steering committee review in determining the need and extent of a guidance document concerning format for preparation of construction solicitations and contracts. The end use for the guidance would include the Corps and hired A-E firms.

4. INFORMATION:

a. The format for construction contracts is prescribed in EFARS 14.201-1. The Construction Format Guide, Attachment C, to PARC IL 92-4 provides detailed instructions and is recommended for use in preparing the guidance document.

b. The attached Figure 1 shows the required arrangement of sections for construction solicitations and contracts using the standard format. Section numbering is based on the CSI format. The guidance document proposed by this paper would include specific instructions for each section. For example: " 00800, Special Contract Requirements should include only regulated (FAR, DFAR, AFAR and EFAR) clauses. These clauses are normally project specific, supplementary to technical specifications and may require editing or insertion of data based on project requirements."

5. SUMMARY: Including a guidance document on format along with existing specification guidance, in the CCB database for example, and referencing the guidance in appropriate regulations, should lead to increased use of the required format and increase uniformity in preparation of Corps of Engineers solicitations and contracts.

Don Carmen
Steering Committee Member

Encl
Figure 1

ENCLOSURE 17

Construction Documents

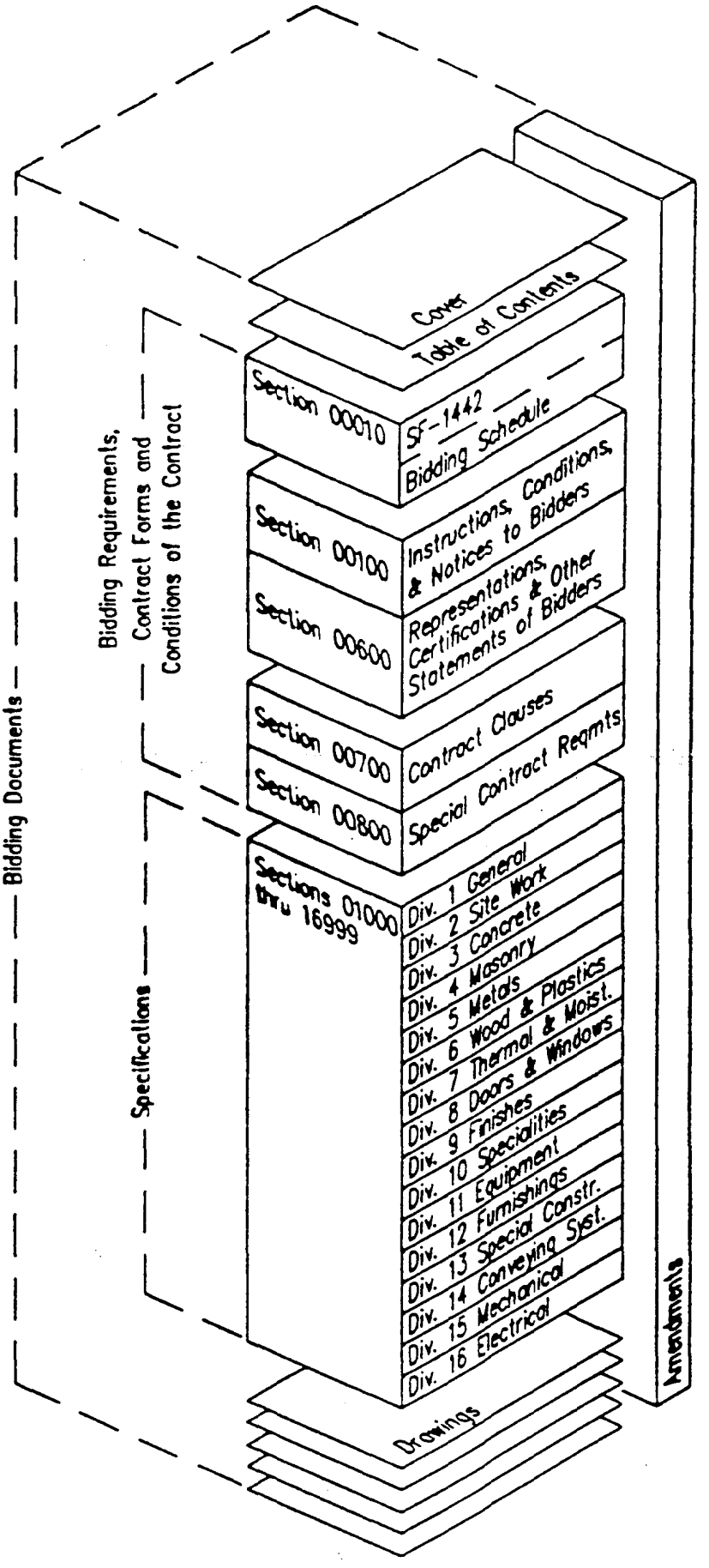


Figure 1

PART 14 — SEALED BIDDING

SUBPART 14.2 — SOLICITATION OF BIDS

14.201 Preparation of invitation for bids.

14.201-1 Uniform contract format (UCF).

(a)(1) For USACE construction contracts, the following USACE format shall be used in lieu of the UCF. The UCF's corresponding section is shown parenthetically below each USACE section to illustrate the relationship between the two formats.

USACE Contract Format	Uniform Contract Format
00010 Solicitation/Contract Form (SF1442) (UCF Sections A & B)	A. Solicitation/Contract Form
00100 Schedule/Instruction to Offerors (UCF Sections L & M)	B. Supplies or Services & Prices/Costs
00800 Representations & Certifications (UCF Section K)	C. Description/Specs./Work Statement
00700 Contract Clauses (UCF Section I)	D. Packaging & Marking
00800 Special Contract Requirements (UCF Section H)	E. Inspection & Acceptance
01000- Division 1, General Requirements (UCF Section C)	F. Deliveries or Performance
16999 Division 2 - 16, Technical Provisions (UCF Section C)	G. Contract Administration Data
	H. Special Contract Requirements
	I. Contract Clauses
	J. List of Attachments
	K. Representations, Certifications & Other Statements of Offeror
	L. Instructions, Conditions & Notices to Offeror
	M. Evaluation Factors for Award

SUBPART 14.4 — OPENING OF BIDS AND AWARD OF CONTRACT

14.406 Mistakes in bids.

14.406-2 Apparent clerical mistakes.

Insert the statement at 52.214-5000 in each solicitation with a bid schedule containing both unit prices and extended amounts based on those unit prices and in each solicitation with a bid schedule containing two or more bid items (or sub-items) that are totalled to arrive at a lump sum price.

14.406-3 Other mistakes disclosed before award.

(e)(1)(i) Authority. If a bidder requests permission to withdraw a bid and not correct it, Commanders are hereby delegated without power of redelegation the authority to approve such requests for withdrawal. If, however, a bidder requests correction or relief, (that is, either correction or withdrawal) the request shall be submitted to the Division Commmander for determination, who shall exercise the authority in coordination with the Division Counsel.

(g)(3)(S-100) Also include the following:

(i) Sworn affidavit(s) as to the authenticity of the worksheets and other documents, that is, affidavits from the person(s) who prepared the worksheets that the documents submitted are all the working papers used to compute the bid, that the documents were all created before bid opening, and that the worksheets have not been altered since bid opening; and

(ii) Sworn affidavit(s) as to the mistake, the manner in which it was made, and the intended bid price, including the affidavit(s) of the person(s) who computed the amount alledgedly omitted from the bid.

(iii) The statement by legal counsel should include citation to pertinent decisions of the Comptroller General.

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-EP

27 JAN 1997

MEMORANDUM FOR Commander, Lower Mississippi Valley Division,
ATTN: Chairman, Civil Works Specifications Steering Committee,
(CELMV-ET-ET)

SUBJECT: Recommendation No.4, Civil Works Specifications Steering Committee

1. Reference CELMV-ET-ET memorandum dated 24 September 1996, subject as above.

2. The subject recommendation was forwarded by CECW-EP to each of the appropriate offices in HQUSACE requesting a time schedule to update or develop the recommended guide specs. The status follows:

- CE 1102, Dredging (update of 1960 guide spec) - CECW-O has not yet determined when an update of this guide spec can be accomplished. I will continue to coordinate with CECW-O to establish a schedule.

- CE 1308, Stone Protection - CECW-EG estimates that it will cost $40,000 and one year to update the 1958 guide spec.

- CE 1309, Levees (update) - CECW-EG estimates that it will cost $40,000 and one year to update the 1968 guide spec.

- Drainage Structure through Levees & Small Dams (develop) - CECW-EG estimates that it will cost $80,000 and two years to develop this new guide spec.

- Concrete Restoration (develop) - CECW-EG estimates that it will cost $100,000 and two years to develop this new guide spec.

- Rock Anchors and Soil Anchors (develop) - CECW-EG estimates that it will cost $50,000 and two years to develop this new guide spec.

- CW 16643, Cathodic Protection for Lock Miter Gates (update) - CECW-EE concurs that this guide spec should be updated. The estimated cost to update is $30,000 and could be accomplished by CESAM-EN-CI (Truell Jones). The Committee must prioritize this work to be accomplish when funding becomes available.

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- Placement of Concrete for Concrete Slurry Cutoff walls (develop) - CECW-EG estimates that it will cost $40,000 and one year to develop this new guide spec.

- High Mast Lighting (develop) - CEMP-EA recommended in lieu of developing a new guide spec the Corps use the Illuminating Engineering Society of North America Standard RP-8, Roadway Lighting. This Standard does address "High Mast Interchange Lighting" and provides calculation procedures. The Committee should determine if the CEMP-EA recommendation is acceptable.

- CW 15346, Lubricating Systems for Flood Control Pumping Plants (update) - CECW-EE stated that this guide spec has been incorporated into CW 15160 "Vertical Pumps, Axial-Flow and Mixed-Flow Impeller Type". The CW 15346 guide spec will be deleted..

- As discussed in our last Committee meeting the following guide have been incorporated into existing engineering manuals and therefore will be deleted as guide specs.

3. Further action is required on some items in this recommendation.

Charles L Baldi

CHARLES L. BALDI
HQUSACE Proponent
Civil Works Specifications Steering Committee

CESPK-ED-M (1150a) 20 February 1997

MEMORANDUM FOR Civil Works Specifications Steering Committee

SUBJECT: Recommendation No. 8, Combine SPECSINTACT Table of Contents with Section Files

1. This is a decision paper.

2. PROBLEM: SPECSINTACT produces separate files for Section Table of Contents (STOC) when requested which effectively doubles the number of electronic print files. This effectively doubles the effort required to manage files when carrying out the Electronic Bid Set (EBS) program.

3. RECOMMENDATIONS: The Civil Works Specifications Steering Committee recommends that HQUSACE request the SPECSINTACT Interagency Configuration Control and Coordinating Board (SI-CCCB) modify the SPECSINTACT print options. We recommend providing a new option to append the section to the STOC and produce a single print file for each specification section. The Committee further recommends HQUSACE provide funding to EG&G for this effort.

4. BACKGROUND AND DISCUSSION: The Electronic Bid Set (EBS) Project is a multi agency effort to develop and carry out electronic distribution of bid sets, including text and engineering drawings, at a reduced cost. HQUSACE requested the Tri-Service CADD/GIS Technology Center to investigate the feasibility of producing electronic construction contract bid documents in FY95. The center selected the Adobe portable data format (PDF) as the standard for preparing EBS specifications. SPECSINTACT creates a print file for each STOC and section when the STOC option is selected. A specification writer converts the files to PDF and combines them into one file for each section (combining files into a division file is optional). The creation of separate files effectively doubles the number of electronic print files and doubles the effort required to prepare files for the EBS. Combining STOC and sections into one print file will effectively cut the EBS specification preparation time in half when using SPECSINTACT.

Freddie S. Rush, Chairman
Civil Works Specifications Steering Committee

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